

AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

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CONTENTS :

Internal Improvements ; On the Construction of Railroads	page 545
On the Location of Railroad Curvatures, (continued) ..	546
Rockwell's Patent Vault Light ; Report of the Franklin Institute on Weights and Measures ; &c.	548
On the Proposed Ship Canal from Oswego through Utica to Albany	552
The Pawnee Indians ; Love and Romance, &c.	553
Literary Notices	554
Foreign Intelligence	556
Summary	557
Advertisements, &c.	559
Poetry—On the Death of a Young Friend ; On a Dead Child ; Advertisements	560

AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, SEPTEMBER 6, 1834.

Internal improvements within our State, by her own resources, are in every sense more desirable than if made or aided by the United States: yet there are certainly exceptions to this. Such, for instance, are the improvement of so great a thoroughfare as the Hudson, and the connection of the great lakes, by cutting a ship canal round the falls of Niagara. These clearly fall within the province and duty of the General Government.

For the Hudson, a small appropriation of \$70,000 has already been made by Congress. Captain Taillott, an accomplished officer of the United States Engineers, has, it is understood, been ordered to take charge of the work. According to the tenor of the law, the improvement, towards making which this sum was voted, is to be effected in conformity with a plan laid down in a report made some years ago by Col. Dewitt Clinton. What that precise plan is, we know not, not having the report; but from the nature of the stream itself, and of its tributaries, we apprehend great, if not insuperable, difficulties will be found, in any attempt permanently to deepen the obstructed channel. The quantities of earth, timber, &c. brought down by the spring freshes, and the rich meadows through which the river passes, will, it may be feared, constantly accumulate fresh depósitos—at or near the Overhough. After all, perhaps, a ship canal from Troy to Hudson would be found, in the end, the cheapest, as it certainly would be an effectual, substitute for an obstructed river.

The other work which the United States must one day undertake—and they cannot perhaps undertake it too soon—is a ship canal around the Falls of Niagara. This, as every one who has seen the ground may have perceived, is easily practicable; and as, by the time it shall be completed, the free navigation of the St. Lawrence should be conceded to us by Great Britain—as a right, not as a favor—as deduced

from the general principles that nation has been a party to and sustained in Europe, and not as resulting from any peculiar relations existing between that country and this—there would by that channel, and by the ship canal which this State is expected to construct from Oswego to the Hudson, be two new outlets opened to the fertile regions of the West.

Thus much of internal improvements by the agency of the general government.

This State, meanwhile, has a great work to perform, in which this city is full as much interested as that portion of the country where it is to be effected—a Railroad through the South Western tier of Counties. Facilities for this route greater than the most sanguine hopes had anticipated, have, it is said, been developed by the survey; and when it is considered how little has been done for that portion of the State, and how important it is in the active competition going on for the trade of the Western States, to obtain a communication with Lake Erie, as far South as possible, so as to be available late in the fall and early in the spring without interruption from frost, it will be admitted that the proposed Railroad through the South Western tier of Counties has strong claims upon the State for aid.

See page 552.

On the Construction of Railroads.

To the Editor of the Railroad Journal:

SIR,—You know it is only a matter of course that I should read the article of "J." on the subject of a road of earth expressly for steam carriages, in your 32d number, with peculiar gratification. It is by no means certain that the subject will attract the attention of those who are most interested, and able to turn the suggestions to a good practical account. I hope it may. However, I offer you a few further observations in relation to it of a plain character. Experience must show what kind of road is best for this purpose. I observe, that at this time, (the season is dry,) the heavy stage, with its small wheels of narrow tire, and when full of passengers and baggage, (near 3 tons,) in passing by my door, if the wheels happen to go a little out of the common track, which has been beaten into dust by the horses' shoes and the wheels, they make a track or indentation that is scarcely perceptible.

The materials of this road are not gravel, but a mixture of sand and clay, such as constitutes either the upper or the second stratum of earth generally through this region. It is perfectly apparent then, that, when dry, if it were accurately graduated, and not cut up by horses' feet and narrow tires, it would be little inferior to a rail. During the time a drizzling rain is falling, it certainly is softened one eighth

or one fourth of an inch, but immediately after the rain it dries and recovers its solidity, and this result would be accelerated and perfected by the passing of such wheels as "J." has suggested. From the showing of this writer and various articles which have appeared in the Journal, it is manifest that the advantage which a railroad has over a road of earth is limited to a road level, or nearly so; and that when you arrive at an ascent of one in fifty, it is even better than a railroad. Can this be so? Few railroads can be constructed without occasional ascents as great as one in fifty. But evidently, if a line of road have one such inclination, this, of course, limits the performance of the locomotive, for, practically, it is of no use to give it a greater load on the level portion than it can take over the ascent; and all the advantage which a railroad has over a road of earth, practically, is lost. Nay, if it should have one ascent near to that which requires additional aid, it is greatly superior, and that superiority increases rapidly as the inclination is greater. I say again, can it be so? What is, then, the necessity of railroads?

But, furthermore, the construction of a railroad is a nice affair; every part must be kept perfectly tight and in its place; only small wheels can be used; and, although for trial and exhibition a locomotive may run even 40 or 50 miles an hour, yet, practically, they do not exceed 15 or 20. Whereas, it appears to me, that by the use of large wheels, (and why may they not be made even 15 feet diameter,) a locomotive may be driven on a road of earth, ordinarily, at any velocity which the resistance of the atmosphere will admit—say 50 to 60 miles an hour. It is certain, at least, that the progress of the large wheel is not only greater for each revolution, but its motion is much more smooth and equable, and not subject to jostling or agitation. I am not at present aware of any disadvantage attending large wheels, except their gravity causing a greater indentation of the road, and greater resistance in ascending an inclination. The first, I think, would be prevented by the increased diameter and breadth of tire, and the latter compensated by the greater adhesion; and finally, engines of almost any required power could be used.

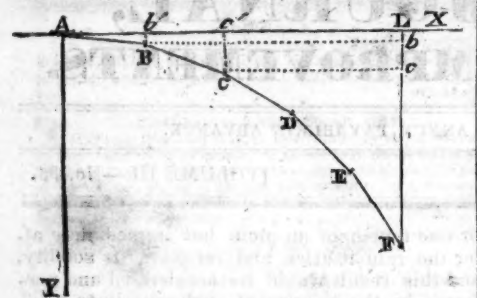
Perhaps most of the above remarks are merely repetitions of what you have published before; but if there is not some very great fallacy or mistake in all that has appeared on this subject, they ought to be repeated until noticed and tested by experiment.

But, one word more: if roads of this description, by reason of frost, are not adapted to northern regions, they certainly are to Virginia, Kentucky, and all the southern part of our favored land, where little inconvenience is occasioned by frost. C. O.

On the Location of Railroad Curvatures; being an Investigation of all the Principal Formulas which are required for Field Operations, in laying Curves and Tangent Lines, to pass through Given Points. By J. S. VAN DE GRAAFF. Continued from page 533. [For the American Railroad Journal.]

13. Let AB, BC, CD, &c. represent the successive chains by which a given curve ABCD, &c., may be traced from its origin at the station A, in such a manner as to touch a given right line, AX, at that station; and let EF represent the *n*th chain, counted from the origin at A.

Taking AX, and AY, for a system of rectangular co-ordinate axes, it is proposed to investigate formulas which will express the values of the co-ordinates AL and LF, of the station at F.



Put $x = AL$, and $y = LF$. The inclination of the first chain AB, to the axis of x , is found by Art. 10 to be $= T$; and therefore the projections of AB upon the co-ordinate axes will be, $Ab' = AB \cdot \cos. T$, and $Lb = AB \cdot \sin. T$. But as all lines are supposed to be measured in chains, it follows that the projections of AB upon the co-ordinate axes are, $Ab' = \cos. T$, and $Lb = \sin. T$. Again, by Art. 10, the inclination of the second chain BC to the axis of x is $= 3T$, and consequently the projections of BC upon the co-ordinate axes, are $b'c' = \cos. 3T$, and $bc = \sin. 3T$.

In like manner let each of the other chains be projected upon the co-ordinate axes; and then taking the sums of those projections, the following equations will obviously be the result, $x = \cos. T + \cos. 3T + \cos. 5T + \dots$

$$\cos. \{T \cdot 2n-1\}.$$

$$y = \sin. T + \sin. 3T + \sin. 5T + \dots$$

$$\sin. \{T \cdot 2n-1\}.$$

The reason for writing the last term, in each of these two series, as the *n*th term, requires no explanation; and the sum of *n* terms of each series being taken agreeably to the known principles of analytical trigonometry, the following formulas will be the result,

$$\frac{\sin. 2nT}{2 \sin. T}$$

$$x = \frac{\sin. 2nT}{2 \sin. T}$$

$$\frac{\sin. 2nT}{2 \sin. T}$$

$$y = \frac{\sin. 2nT}{2 \sin. T}$$

The form in which the expressions (VI.) appear is that most convenient for logarithmic computations; and it is also a form which will be required hereafter for other purposes. But for use in the field, with a table of natural sines and cosines, the expression for the value of y may have a better form. Thus, agreeably to the principles of analytical trigonometry, $2 \sin. 2nT = 1 - \cos. 2nT$; and consequently the expressions (VI.) become,

$$\frac{\sin. 2nT}{2 \sin. T}$$

$$x = \frac{\sin. 2nT}{2 \sin. T}$$

$$\frac{1 - \cos. 2nT}{2 \sin. T}$$

$$y = \frac{1 - \cos. 2nT}{2 \sin. T}$$

Such are the formulas which it was proposed to investigate. For an example in figures, let the modulus of curvature be 1° , and suppose it were required to find the values of AL and LF, corresponding with the extremity of the 40th chain. In this case, then, $2nT = 80^\circ$; and by the table of natural sines and cosines, at the end of this volume, I find $\sin. 80^\circ = .98481$, $\cos. 80^\circ = .17365$, and $\sin. 1^\circ = .01745$; hence,

$$x = \frac{.98481}{.03490} = 28.214 \text{ chains; and}$$

$$y = \frac{1 - .17365}{.03490} = \frac{.82635}{.03490} = 23.675 \text{ chains.}$$

If, therefore, the chain used in tracing the curve be 100 feet in length, then $AL = 2821$ feet, and $LF = 2367$ feet.

14. Let the modulus of curvature be given from which a circular arc is traced in the field with a given chain; it is then proposed to determine the radius of the arc described.

It is very obvious that when n is made variable in (VII.), the maximum value of x will express the required radius; but when x is a maximum, it follows that $\sin. 2nT$ must be a maximum also, if it be supposed that $\sin. T$ remains constant. Now, the quantity $\sin. 2nT$ obtains its maximum value when $2nT = 90^\circ$; in which case $\sin. 2nT = 1$. Hence, denoting the radius of the described circle, in chains, by R , the result is,

$$R = \frac{1}{2 \sin. T} \quad (\text{VIII.})$$

The most simple formula which can possibly be obtained to express the radius of curvature may be had by means of the cosecant of the angle T . For by the principles of trigonometry, $\text{Cosec. } T = \frac{1}{\sin. T}$; and consequently

$$R = \frac{1}{2} \text{Cosec. } T \quad (\text{IX.})$$

To save the trouble of computation, the following table is here subjoined:

T	R	T	R	T	R
0° 3'	572.96	1° 3'	27.28	2° 3'	13.98
6'	286.48	6'	26.05	6'	13.65
9'	190.99	9'	24.91	9'	13.33
12'	143.24	12'	23.88	12'	13.03
15'	114.59	15'	22.92	15'	12.74
18'	95.49	18'	22.04	18'	12.46
21'	81.85	21'	21.22	21'	12.19
24'	71.62	24'	20.47	24'	11.94
27'	63.66	27'	19.76	27'	11.70
30'	57.30	30'	19.10	30'	11.46
33'	52.09	33'	18.49	33'	11.24
36'	47.75	36'	17.91	36'	11.02
39'	44.07	39'	17.37	39'	10.81
42'	40.93	42'	16.85	42'	10.61
45'	38.20	45'	16.37	45'	10.42
48'	35.81	48'	15.92	48'	10.24
51'	33.70	51'	15.49	51'	10.06
54'	31.83	54'	15.08	54'	9.88
57'	30.16	57'	14.69	57'	9.72
1° 0'	28.65	2° 0'	14.33	3° 0'	9.55

For an application of the above table to an example, suppose it be required to determine the radius corresponding to a modulus of curvature of 1° , as in the last numerical example. Looking in the column marked R, and opposite to 1° in the column marked T, I find 28.65, which is therefore the radius in chains; and if the modulus of curvature, 1° , appertains to a chain whose length is 100 feet, then the radius of the arc described will be 2865 feet. But if the modulus of curvature, 1° , has reference to a chain whose length is only 50 feet, then the curve traced will have a radius of only the half of 2865 feet.

15. It appears from (VIII.) that the radius of curvature is directly as the length of the chain, and inversely as the sine of the modulus of curvature. Hence, if the radius of curvature be given, then the length of the chain will be directly proportional to the sine of the modulus of curvature. If therefore a curve be traced from a given modulus T , and with a chain whose length is unity, and it be required to find what modulus will trace the same curve with a chord whose length in chains is p , let the required modulus be denoted by T' , and we have the proportion $1 : p :: \sin. T : \sin. T'$; from which is obtained the formula,

$$\sin. T' = p \times \sin. T. \quad (\text{X.})$$

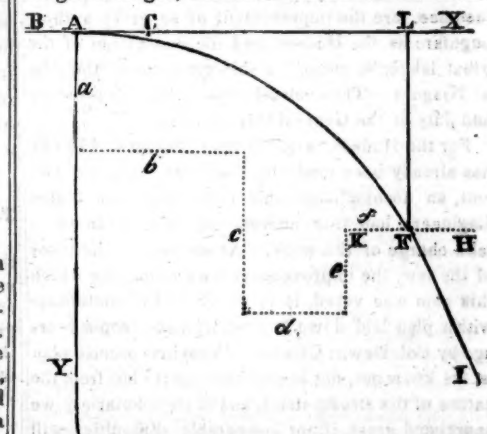
Example. Suppose the length of the chain to be 100 feet, and let it be required to determine the modulus of curvature which will trace a curve whose radius is 10743 feet, by taking chords whose lengths are 10 chains each. Here the radius of curvature is 107.43 chains; and by inspecting the table of radii, given in the last article, I find that the radius 107.43 is situated between the moduli, $0^\circ 15'$, and $0^\circ 18'$; and therefore, by proportional parts, I find the true modulus which corresponds to the radius 107.43 to be $0^\circ 16'$, and which would, consequently, trace the proposed curve with the given chain.

Hence, $\sin. T' = 10 \times \sin. 0^\circ 16' = 10 \times .00465 = .0465$; and by the table of natural sines, I therefore find $T' = 2^\circ 40'$, which is the modulus required.

In all cases where the angle T' does not exceed two or three degrees, the result obtained from (X.) will not differ, by any material quantity, from that obtained agreeably to the principle given in Article 5.

16. Take a system of rectangular co-ordinate axes, having their origin at a given station in a tangent line, from which a certain required curve is to be laid, passing through a point designated by the co-ordinates x, y ; the given tangent line coinciding with the axis of x . Parallel respectively to each of the co-ordinate axes, let any number of rectangular lines be traced from the origin, and terminating in the point designated for the required curve to meet; these rectangular lines being selected in any convenient manner to pass any obstacle which may happen to occur. Let the algebraic sums of each of those rectangular lines be taken, agreeably to the axis to which they are respectively parallel. Those sums will obviously give the values of the co-ordinates x, y ; and from thence it is proposed to determine a formula, expressing the value of the modulus of curvature of the required curve. And it is also required; from the same data, to determine a method by means of which the instrument may be immediately directed into the true tangent at the designated point x, y .

Let AX represent the given tangent line, A the given origin, and AX, AY, the co-ordinate



axes. Take F for the given point, designated by the co-ordinates $AL = x$, and $LF = y$; and let the lines marked with the small letters, a, b, c, d , &c. denote the rectangular lines, originating at A, and terminating at F, and traced in any arbitrary manner parallel respectively to each co-ordinate axis. The algebraic sums of those lines give

$$x = b + d + f$$

$$y = a + c - e$$

It will in all cases be more convenient to determine the values of x and y , agreeably to the method here proposed, than to trace the lines AL and LF in a direct manner, even if the latter were always practicable. Very often, however, the three, a, b, c , will be sufficient.

The values of the co-ordinates x, y , having now been determined, the next object is to find the necessary modulus of curvature which will trace a curve from the origin at A, passing the

point F. For this purpose let each of the expressions (VII.) be squared,* and let the last of the two be divided by the sum of the squares; the result is,

$$\sin. T = \frac{y}{x^2 + y^2} \quad (XI.)$$

The formula thus obtained is remarkably simple, and convenient for use; and it may perhaps be well to observe, that the *safest* method of recording the lines *a, b, c, &c.*, in the field, will be to take on a piece of paper the form $\begin{cases} x = \\ y = \end{cases}$, and then record each line in its proper equation, and with its proper sign, immediately as their values are determined. Example: A system of rectangular lines having been traced to a designated point, let the resulting equations be $\begin{cases} x = 20 - 2 + 4 \\ y = 8 + 3 + 1. \end{cases}$

In this case, then, $x = 22$ chains, and $y = 12$ chains, and $\sin. T = \frac{12}{484 + 144} = \frac{12}{628} = .01911$; and by the table of natural sines I therefore find, $T = 1^\circ 53'$; which modulus will trace the curve required.

But if the curve AF, as first determined by means of (XI.) should appear to be too abrupt, or if from any other cause it should be considered advisable to commence the curve from a different origin upon the tangent line AX, as for instance at B or C, and still retain the same point F, then the necessary modulus of curvature from the new origin is easily obtained from the former measurements. For taking α to denote the distance AB or AC, the new co-ordinates will obviously be $x \pm \alpha$, and y ; and consequently upon the same principle as in (XI.), the required formula for the new modulus is,

$$\sin. T' = \frac{y}{x \pm \alpha^2 + y^2} \quad (XII.)$$

If, for example, the curve last considered had been commenced 3 chains back upon the tangent line AX, as at the point B, then the co-ordinates would have been $x + \alpha = 25$, and $y = 12$; and, therefore, $\sin. T' = \frac{12}{625 + 144} = \frac{12}{769} = .01561$; or, $T' = 0^\circ 533'$; which is the modulus required to trace a curve from the new origin at B, through the point F.

The direction of the tangent will now be considered. It is very evident that the two curves considered in the two last examples will have very different directions in passing the point F; and it is a matter of considerable importance in the field, after the rectangular lines *a, b, c, &c.*, have been traced to any proposed point, to be able to examine, by the direction of the instrument, what the direction of the curve would be passing from the origin through that given point. Indeed, in different situations, a curve cannot be selected without such a datum; and if the rectangular lines, *a, b, c, &c.* were not sufficient to furnish that datum with facility, a curve would have to be actually laid upon the ground in order to judge of its fitness, even if we knew a point F through which it would pass. A formula for this purpose is however easily obtained from the rectangular lines *a, b, c, &c.* Let FI represent a tangent from the point F; there would then, evidently, be no difficulty in directing the instrument, when placed at F, into the position FI, if we knew the inclination of that tangent to the original tangent AX, at the origin. For supposing KF to be the last rectangular line traced, it will, of course, be either parallel to AX, or perpendicular to it; and in either case it furnishes the means of directing the instrument into the line FH, parallel to the original tangent at the origin. We have then only to deflect the angle HFI, equal to the inclination of the two tangents, when that inclination is known, and the direction of the curve at F may then be seen at once, from the position of the instrument, without that delay which would be occasioned by actually tracing

a curve upon the ground, which would ultimately have to be relaid.

The result therefore is, that a formula must be investigated, expressing the inclination of the two tangents, in terms of the given co-ordinates *x, y*. Take D to denote the inclination required; then by (IV.), $D = 2\pi T$; and therefore by (VII.), $x = \frac{\sin. D}{2 \sin. T}$, and $y = \frac{1 - \cos. D}{2 \sin. T}$.

$$\text{Hence } \frac{\sin. D}{x} = \frac{1 - \cos. D}{y}; \text{ or, } \frac{\sin. D}{1 - \cos. D} = \frac{x}{y}.$$

Now, substituting for $\frac{\sin. D}{1 - \cos. D}$, its value

Cot. $\frac{1}{2}D$, agreeably to the principles of trigonometry, the following formula is the result,

$$\text{Cot. } \frac{1}{2}D = \frac{x}{y} \quad (XIII.)$$

Example 1. Take the same curve which was proposed as an example for (XI.) In this case, then, the co-ordinates are $x = 22$ chains, and $y = 12$ chains; and, therefore, $\text{Cot. } \frac{1}{2}D = \frac{22}{12} = 1.83333$; or, by the table of natural cotangents, $\frac{1}{2}D = 28^\circ 36'$; or, $D = 57^\circ 13'$. Hence deflect the angle HFI = $57^\circ 13'$, and the instrument will then indicate the true direction which the proposed curve would have in passing the point F, if traced from the origin at A, by means of the modulus of curvature before determined.

Example 2. Let the direction of the curve which was proposed as an example for (XII.) be required.

Here the co-ordinates are $x + \alpha = 25$, and $y = 12$; and, therefore, $\text{Cot. } \frac{1}{2}D = \frac{25}{12} = 2.08333$. Hence, $\frac{1}{2}D = 25^\circ 38'$, or, $D = 51^\circ 17'$; and consequently, in this case, deflect the angle HFI = $51^\circ 17'$, to obtain the direction required. This curve would therefore intersect the former, at the point F, with an angle of $5^\circ 56'$.

In all cases where both of the angles D and T have to be found, the most convenient method will be to determine the value of D by means of (XIII.), and then compute the value of T from that of D. For by a reference to (IV.) and (VII.), the following theorem will be easily deduced,

$$\sin. T = \frac{\sin. D}{2x} \quad (XIV.)$$

17. It is frequently necessary that several points should be designated, through which a curve is required to pass, by means of a change of curvature at each of those points. To illustrate this case, and to show the method of operation which ought to be pursued under such circumstances, take AX, (see fig. last art.) for the primitive tangent line, and AX, AY, for primitive co-ordinate axes, whose origin is the commencement of the required curve. Trace, parallel to those axes, a system of rectangular lines given by the equations

$$\begin{cases} x = a + b + c + \&c. \\ y = d + e + f + \&c. \end{cases}$$

and terminating at the first designated point. Let the instrument be then placed at that point, and directed into tangent, agreeably to the method explained very fully in the last article. Take this second tangent as the axis of *x*, for a new system of rectangular co-ordinate axes; and parallel to these new axes, trace a second system of rectangular lines, given by the equations $\begin{cases} x = a' + b' + c' + \&c. \\ y = d' + e' + f' + \&c. \end{cases}$

and terminating at the second designated point. Let the instrument be now placed at this second point, and again directed into the proper tangent, by the same means as before. Take this third tangent as the axis of *x*, for a third system of rectangular co-ordinate axes; and parallel to this second new system of axes, trace a third system of rectangular lines, given by the equations $\begin{cases} x = a'' + b'' + c'' + \&c. \\ y = d'' + e'' + f'' + \&c. \end{cases}$ and terminating at the third designated point. Continue this obvious order of proceeding until

all equations $\begin{cases} x = \\ y = \end{cases}$ have been obtained

for all the designated points; and then by means of those equations, and (XIV.), compute all the moduli of curvatures. Returning now with the instrument to the primitive origin at A, let each curve be traced from its proper modulus of curvature, agreeably to the principles explained in Art. 9; and the line will be found to pass through all the designated points.

If proper care be observed in chaining the different systems of rectangular lines by means of which the equations $\begin{cases} x = \\ y = \end{cases}$ have

been obtained, there can be no disappointment in the result; and consequently, if the designated points have been judiciously selected, there will very seldom be a necessity of tracing the same part of a line the second time. And thus the method of co-ordinate axes, in the hands of an individual to whom that term is familiar, is susceptible of being made one of the most important facilities in the field, as will be further illustrated in subsequent articles.

In tracing the various systems of rectangular lines through the different points which may be designated for a curve, there is a principle of practical convenience which must be here mentioned. I mean the principle of designating such points, for a change of curvature, as will cause each section of the whole curve, between the designated points, to be composed of an integer number of chains; when those curves come to be ultimately traced, after their respective moduli of curvatures have been ascertained by the methods which have been already explained. It is indeed necessary, in every case, except where the roadway is perfectly horizontal, to know the length of each of those separate curves, in order to select the designated point judiciously with respect to the grade; and this datum must therefore always accompany the levels. When a system of those rectangular lines have been traced to any given point, and the corresponding equations $\begin{cases} x = \\ y = \end{cases}$ have

been thus obtained, the distance from the origin to that given point, in a right line, will obviously be truly expressed by $\sqrt{x^2 + y^2}$; which is a formula rendered very convenient for use, by means of the table of squares and square roots of numbers, subjoined to this volume. And this quantity may be frequently taken as the length of the intervening curve, by which to compute what the grade would be at that given point, and will always furnish an easy method of obtaining the approximate distance necessary in making a proper selection for the position of a line as far as the levels have an influence. The next object then must be, finally, to designate such a point, as near the point fixed by the levels as a desirable curvature will permit, and which will produce a curve, from the origin, containing an integer number of chains; but as this last condition is only for convenience in subsequently tracing the curve, it must be done without injury to the line, which is in fact always practicable.

Suppose the first system of rectangular lines to be terminated at the first point selected from the nature of the ground. Let $\begin{cases} X = a + b + c \\ Y = d + e + f \end{cases}$ be the resulting equations, and compute the value of T, and the value of a certain angle D', from the following formulas,

$$\begin{aligned} \text{Cot. } \frac{1}{2}D' &= \frac{X}{Y} \\ \sin. T &= \frac{\sin. D'}{2X} \end{aligned} \quad (XV.)$$

Having now obtained the values of D' and T, let a certain quantity, N, be found from the following expression,

$$N = \frac{b'}{2T} \quad (XVI.)$$

If, then, N be an integer number, it will express the number of chains in a curve passing from the origin to the point designated by the

* See note, Art. 20.

equations $\begin{cases} X=a+b+c \\ Y=d+e+f \end{cases}$, and the angle D'' will then give the inclination of the new tangent at that point, agreeably to (XIII.); and T will express the modulus of curvature as appears from (XIV.). But if N is not an integer number, take n the nearest integer number to it, and retaining the value of T , compute the corresponding new co-ordinates x, y , by means of (VII.).

Finally, let two other rectangular lines $h=x-X$, and $k=y-Y$, be traced from the point producing the equations $\begin{cases} X=a+b+c \\ Y=d+e+f \end{cases}$, and a new point $\begin{cases} x=a+b+c+h \\ y=d+e+f+k \end{cases}$ will be thus obtained, to which a curve being traced from the origin, by means of the modulus of curvature T , it will contain the integer number of chains denoted by n .

[To be continued.]

¶ In Massachusetts a steam waggon to run on common roads has been invented. Several trials have proved its efficacy. They intend to endeavor to make it pack and unpack all its packages, and keep its own account of freight.

The contracts for the Cumberland Railroad have been taken up, and the workmen have commenced operations.

Good Business.—The number of passengers conveyed on the Worcester Railroad, which is completed only to Needham, during the month of August, was 13,664, and the amount received from them, \$4705 66!

The Rochester Democrat contains the following paragraph:

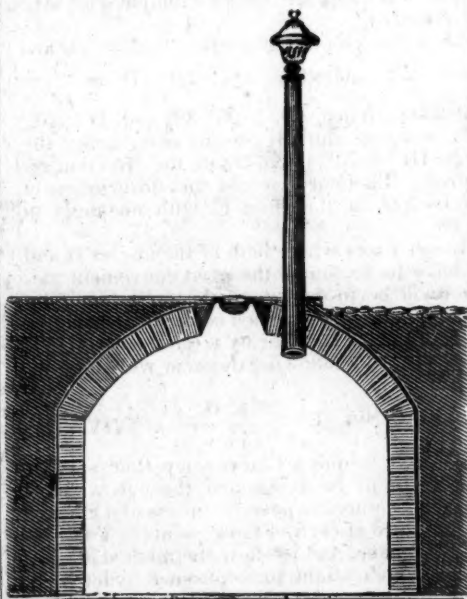
Erie Canal Navigation Suspended!—Among the strange occurrences of the day, we have to notice on Wednesday for the first time, since its completion, a total suspension of business on the Canal at this place. Nor is the suspension of navigation more to be deprecated than the evil of low, and impure water at this season of the year is to be dreaded. And when we look to the causes that have produced this state of things, we are the more surprised that our citizens submit to it as patiently as they do. We assert without fear of contradiction, that there exists no good cause, at this time, why boats should be aground, and that too for a number of days together. And this assertion is backed up by men whose experience is not to be brought into question, that to-day, and for the last two months, since a deficiency in the canal has been felt, there has been no good reason why we should not have full banks, and business going on as in years past. Years too, when greater droughts have prevailed than at this time, there was no difficulty experienced in feeding the canal at this place from lake Erie, and we again assert, there is no reason why it cannot now be done.

The Baltic Sea.—A paragraph lately published in the London papers from the St. Petersburg Commercial Gazette, mentions, in confirmation of the opinion long entertained that the waters of the Baltic are subsiding, that the water in the port of that city has become considerably lower within the course of the last twenty years. Many facts are quoted in confirmation of the same opinion. It is believed that 2500 years ago Sweden and Norway were a complete island. Many towns on the shores in this sea which were anciently ports for shipping, are now some miles from the sea. The port of Lodisa is now four miles from the sea, and that of Westerwich two miles. Torneo was once visited by large vessels, it is now in the middle of the peninsula. Many islands which were formerly distinct are now joined together, and others have been united with the continent. Some writers have argued that in 2000 years the Baltic will entirely disappear, and that for want of navigation the inhabitants of the shores will be compelled to resort to railroads for maintaining the commerce with distant countries.—[Boston Daily Advertiser.]

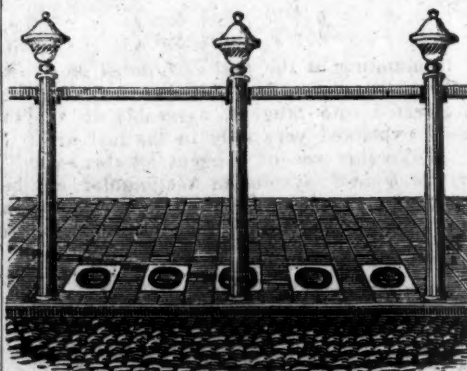
There is now making at the steam engine boiler manufactory of Mr. John Harrison, near St. Mary's bridge, in this town, perhaps the largest vessel that ever was put together in this kingdom, of wrought iron. The dimensions are as follows—Diameter,

47 feet; depth, 20 feet 3 inches; weight, between 50 and 60 tons. It will contain 218,947 imperial gallons, or 980 tons of water, which will be a pressure on the bottom of 88lbs. on the square inch.—[Derby Mercury.]

ROCKWELL'S PATENT VAULT LIGHT.—Every citizen is aware that the common vault light, or grating, which may be seen on our sidewalks at every few steps, are not only unsightly to the eye, but often positively dangerous. Very frequently they are found loose, often broken, with a bar or two out, and in winter so slippery as to render it hazardous to step upon them. Independent of these considerations, by their openness to permit rain, snow, and dirt, to pass into the vault, and render them wet, cold, and filthy, the advantages of Rockwell's Patent Light are many. There is nothing unsightly in their appearance; but, on the contrary, they are ornamental,—are made to set secure in stone, and immoveable, except when it is necessary to remove them. The passenger may put his foot on them with perfect security; and whilst they keep the vault dry, and permit ventilation to go on, possess, in addition, this advantage: they furnish, by means of the glass in the centre, light to enter, and from its convex shape, to radiate on all sides, thus giving light to the vault. Fig. 1 shows the vault, with the light, and a hollow



post through which air will pass. This pipe can be stopped up in winter if necessary, or converted into a chimney. Fig. 2 is intended



to represent the appearance outside, covering a space of 25 feet in the street, with hollow cast iron awning posts, and vault lights made perfectly tight.

Mr. Rockwell, the inventor, has also made these vault lights without ventilation holes, which are admirably adapted for vegetable vaults, where light only is required, thus excluding all cold and wet, but serving as windows to light these hitherto dark apartments.

The durability of this light, compared with the common vault covering, will be found to bear no comparison with the difference in price, which is little more than the most common in use, independent of its superior qualities.

Persons about to build, or those who would wish to improve their vaults, may see this simple, yet beautiful and economical improvement in front of the Exchange, where two of them have been placed over vaults,—in front of the New-York Gazette,—or at the store of the proprietor, Broadway, near John street.—[Mechanics' Magazine.]

Report of the Managers of the Franklin Institute of the State of Pennsylvania for the Promotion of the Mechanic Arts, in relation to Weights and Measures. Presented in compliance with a Resolution of the House of Representatives. [From the Journal of the Franklin Institute.]

To the Hon. JAMES FINDLAY, Secretary of the Commonwealth of Pennsylvania.

The Managers of the Franklin Institute of the State of Pennsylvania, for the promotion of the Mechanic Arts, respectfully present to the Secretary of the Commonwealth their report in relation to the subject referred to them by the direction of the House of Representatives. At the stated meeting of the Managers next subsequent to the receipt of the communication of the Secretary of the Commonwealth, dated May 29th, 1833, a committee was appointed to consider the subject, and to report to the Managers of the Institute. Their report, which has been unanimously adopted, is now respectfully submitted. It is believed that no more time has been consumed by the committee than was required by a careful investigation of the subject intrusted to them, and the Managers hope that the delay of this report beyond the time of meeting of the Legislature will be attributed to the necessity of the case.

ALEXANDER FERGUSON, Chairman.
WM. HAMILTON, Actuary.

Report in relation to Weights and Measures in the Commonwealth of Pennsylvania. Adopted by the Managers of the Franklin Institute, January 25, 1834.

The Committee of the Franklin Institute, appointed by the Board of Managers to consider the subject of weights and measures, referred to them by direction of the House of Representatives of the Commonwealth, respectfully report:

That since the date of their appointment, in June last, they have given to the subject the attention which its importance so well deserved. In order to have before them, in a condensed form, the facts relating to the practical bearing as well as to the theory of the matters of inquiry, the Committee requested from three of its members reports upon the systems of weights and measures, of England, and of France, and upon the state of the question in our own country. The reports contained in the appendix, herewith presented, resulted from this request. In the first of these is given a description of the French metrical system, and of the scientific operations required in its establish-

ment; in the second, a brief history of the weights and measures of England, with the method of connecting the recent and reformed system with a scientific basis; and in the third, an abstract of the reports upon weights and measures made to the Congress of the United States, and to the State Legislatures of Pennsylvania and New-York. An examination of these reports will show from how many points our subject has been viewed, and in what varied lights, and how little novelty can be expected in any view which at this time may be submitted. This circumstance will perhaps be found of important practical benefit, for a desire to present what is novel may have led to much of the inapplicable speculative inquiry with which the subject is encumbered.

The Committee think that they may assume that the House of Representatives of the Commonwealth, in referring the bill relating "to weights and measures and to admeasurement" to the Managers of the Franklin Institute, did not intend to confine their report exclusively to the consideration of that bill, but rather that it should form the basis of their investigations.

With this view of their duties, the Committee would propose to consider the subject under two suppositions: the first, that the Legislature of Pennsylvania shall determine, or have determined, to legislate in relation to a system of weights and measures for this Commonwealth, independently of other states; secondly, that a combined action by the several states, or by the Congress of the United States, may be admissible.

In legislating upon any matter which in its varied ramifications affects almost every business in which men engage, there cannot be too much caution. Usages have grown up in all trades, which have become a part of those trades which require a portion of an apprenticeship to learn, in contravening or changing which, by law, the interests of the citizen, if not his rights, are infringed. Hence the necessity of entering thoroughly into details which can only be supplied by the members of each art, or trade, from their own knowledge of their own wants, and which should properly vary with the progress of that art; or of leaving such details to adjust themselves, upon the basis of careful legislation upon general principles.

A system of weights and measures, which aims at furnishing such general principles, should establish the standard of linear measure, and fix the relation of the standard of capacity measures to that of the linear measure; should provide for procuring, preserving, and distributing positive standards of measure and of weights, and should refer the entire system to natural invariable standards, by which its permanence might be secured. It should be accompanied by a supplementary law less fixed in its character, which should state the principal denominations of the several measures and of the weights, and their relation to each other and to the standards.

The system may contemplate an entire change in the standards and in the denominations; or it may aim at providing standards in conformity with those in most common use, and by which the accuracy of existing standards may be at all times tested, and at improving existing denominations.

The case of an entire change is presented by the French metrical system, where throwing aside, in their measures, the denomina-

tions of foot and toise, they adopted a new denomination, the metre corresponding to a new length, the ten millionth part of a quadrant of a terrestrial meridian. The present English system is in part of the second kind; leaving to usage to establish the denominations, it aims at providing positive standards of authority, and of perpetuating them by their comparison with invariable standards furnished by nature. The inability of the first system to contend against usage, is to be found in the establishment by law in France of a metrical foot, one-third of a metre in length, of a metrical pound half the kilogramme of the new system in weight. Had one currency been in use throughout our infant country when the present currency was established, it is not impossible that its beautiful simplicity might, even at this day, have existed only in theory.

Sound policy, nevertheless, requires that, from time to time, such changes should be introduced in existing denominations as will tend to simplify the system, and to bring it gradually nearer to perfection; but even in these, perhaps, the law should follow indications of change dictated by convenience, rather than undertake to lead them.

A system of weights and measures and of denominations based upon that in common use in our country, would include the following particulars: first, a reference to some existing measure as the standard of length; as, for example, to a certain yard measure in the possession of the State, which should be declared at a certain temperature to be the linear unit. The multiple and submultiple denominations of this standard should be declared as lines or nails, inches, feet, perches, &c. Second, a unit measure of capacity, as, for instance, the bushel, should be defined in reference to the linear standard. This unit might be taken for both dry and liquid measures, or it might be deemed advisable to conform to usage by providing different units for liquid and for dry measure. In regard to the denominations an obvious improvement might be made by avoiding the use of the same name for things essentially different, as a gallon for different capacities according to its use in dry or in liquid measure, a change which would not fail to be sanctioned by general adoption. Third, a reference to a positive standard for weight, as a certain pound in the possession of the State. The multiple and submultiple denominations to be regulated. And here a question presents itself, whether it may be possible to have but one unit of weight denominated the pound, rejecting the troy or avoirdupois pound, as may be thought advisable. In choosing between them, the difficulty presents itself that the former pound has been legalized by Congress in our coinage, by referring to the standard troy pound in possession of the mint, while the latter is the pound generally used in commerce. It is probable that this innovation could not be made with advantage at present. In regard to the denominations a similar difficulty is presented in the ton, which is either 2,240 or 2,000 lbs. according to locality, or to usage, or to agreement. To the adoption of the ton of 2,000 lbs. technically called the short ton, there does not seem to be any insuperable objections. It is so convenient in practice that it has been legalized by several of the States, and is used in many cases in our own Commonwealth.

In providing for the distribution of positive

standards throughout the State, the nature of the material of which they shall be made will be an important item. For the material of their positive standards of length, the French adopted iron, the English brass; for those of weight, the former employed platinum for the original standard, and brass for the copies; the latter brass for both. In case of the adoption of either metal, it would be important to inquire by experiment more carefully than has been hitherto done, into their relative expansions under different circumstances of manufacture. This would not bear merely upon the theoretical perfection of the standards, but upon that in practice, for two standards which were alike when made in winter, might, if compared in summer, differ so much that one would be thought to require the expense of alteration. If the yard stick of the merchant will not be changed by this difference, it will become sensible in the chain of the surveyor, and the landholder will find his limits affected by it.

Next, the positive standards thus provided should be referred to some natural invariable standard. The necessity for this reference is so frequently denied that the object would seem not always to be perceived. Positive standards are liable to change by accident and by use. Let us suppose a case in which a standard of measure belonging to the Commonwealth, and carefully deposited in one of its offices, receives injury in taking it down for examination or in course of a comparison of another measure with it. The county standards are resorted to, for the purpose of recovering the original length of the standard, but if not well preserved, or if frequently used, they disagree. It is in such a case, and the probabilities are strong of the occurrence at some time of similar cases, that the natural invariable standard becomes the means of deciding between the varying measures. The length of a pendulum vibrating seconds or the arc of a meridian is measured by using either of the measures; the length thus found is the same number of inches and parts of an inch with that of the pendulum or of the arc, which was previously fixed with reference to the original standard, or is so many parts of an inch too long, or too short, and the length of the original measure is known by reference to that which has been tested. But it is not necessary to resort to any supposition of accident which may occur to the positive standard; the experience of England has shown that, under ordinary care, changes will be found from century to century, and that measures which are at one time easily known and recognized to be the standards, may at some other time be the subjects of antiquarian research. Part of the reproach under which the scientific operations here referred to lie, namely, that they are liable to corrections as science progresses, is due to the fact that experimenters have not been satisfied with stating the results of experiment, but have endeavored to deduce from theory the relation between those results and others in other circumstances, using for this purpose the data furnished by the science of the day. Thus they have not been satisfied with stating that the pendulum vibrating seconds, and in a circular arc, measured with a means described, at a given temperature and pressure, and at a particular spot, was a certain number of inches of the standard; but they have undertaken from their experi-

ment to conclude what the length would be in a vacuum, in a small arc, at an assumed temperature and pressure, at the level of the sea, and in a particular latitude, and these before the weight of the air, the effect of its buoyancy, &c. were well known and established, even according to the knowledge of the day.

The Committee, in the discharge of the duty committed to them by the Managers, proceed to submit their examination of the bill referred by the House of Representatives; in this they will be as brief as is permitted by the fact that many of the provisions of it are at this time the law of the State. If the Committee are correct in the ideas which they have already expressed in relation to the requisite enactments for regulating weights and measures, the objection to the bill, on the score of its leaving general principles to enter partially into details, is a sound one; this remark has reference more particularly to that part of the bill which relates to admeasurement, in relation to which it will be necessary for the Committee to go into minutiae, in order to be intelligible.

The twenty-seventh and twenty-eighth sections establish a certain ratio between the weight of different commodities, and the measured bushel, in regard to which, as far as the usage of this portion of our State can be ascertained, four of the commodities mentioned are not bought and sold by weight; and of the two which are, one is always purchased at a different weight per bushel from that assigned in the sections, the brewers of Philadelphia always buying their barley at the rate of forty-eight pounds to the bushel. Salt of all descriptions pays duty at the rate of fifty-six pounds to the bushel, and is in all cases sold by measure. The usage will probably be found to be different in other parts of the State, for where materials are concerned which have weights in proportion to their bulk, varying with soils and seasons, or, as in the last case, with the moisture of the air, equitable dealing could not fail to produce such differences.

In regard to the scale of anthracite coal, provided for by section twenty-nine, no mention being made of the bituminous coal, usage has established its scale by weight, and no necessity exists for providing a ratio between measure and weight.

The measure of an acre of land, of a cord of wood, or bark, the contents of a hogshead of cider, each is made the special subject of a section, while other superficial measures, the measurement of lumber, &c., the contents of casks of beer, ale, whiskey, &c. &c., are left, as indeed all should be left, to the regulation of inspection laws, or to usage.

Section tenth is liable to similar objections, as providing for a peculiar form to be given to the bushel for measuring lime, which is one only of the many commodities sold by the heaped bushel. A provision for a legal standard bushel would regulate all such cases. The law provides in section seventh for both a wine and a beer gallon, a provision which the committee consider particularly objectionable, the inconvenience of two different measures having the same name, is obvious, and practice confirms the conclusion: the beer gallon being no longer, as far as the committee can ascertain, in use, at least in the city of Philadelphia.

The Committee would further remark, that they have not been able to find why the

regulator of the weights and measures of the city of Philadelphia should not be subjected to the same enactments with other regulators or inspectors; the want of inspection laws to regulate the duties and fees of the office seems to be felt by the citizen who now fills, with industry and zeal, the office of regulator of this city.

Leaving these details, the Committee would urge a general objection to the portion of the bill referring to the positive standard for weights and measures. It is that, after providing for procuring those standards and distributing them, by means which would require an expenditure not at all, however, beyond the necessity of the case, it renders nugatory the whole of the work done, by providing that whenever the United States' standards shall be declared, those of the State shall conform thereto. The existence of a system which has cost the State much time and labor is thereby made contingent upon their obtaining standards which may be those adopted by Congress at some future day, or upon the want of action of the United States upon the matter. The difficulty of a change after a complete distribution of standards would necessarily be much greater than at a time when the want of some standard was generally admitted.

With great deference to the body who are to consider the subject, the Committee have prepared an altered draught of a bill in conformity with the views which they have submitted in the foregoing, and which they respectfully submit for examination, under the supposition that legislation is, at this time, deemed advisable. The bill containing the general provisions for a system of weights and measures is accompanied by a supplementary one establishing the legal denominations. In regard to the manner of this appointment of regulators or sealers of weights and measures, to the securities to be required for the faithful performance of their duties, to the penalties for negligence, and to the penalties for infringement of the provisions of the bill, the Committee do not consider it within their province to offer any remarks, further than that they are of opinion that they may conveniently form a separate subject of legislation, and should not be incorporated with the general enactments.

The Committee will next proceed to a more grateful portion of their duty than that which required the criticism of the bill referred to them; namely, to consider the case in which action by the Congress of the United States may be deemed by the Legislature to be advisable. Next to the inconveniences which result from a varying standard of measure and weight in the same community or neighborhood, may be ranked those produced by a want of uniformity in the standards of different contiguous States; for it must happen, in a republic organized as is our own, that the different parts of the same State have less frequent communication requiring the use of such standards, than the adjacent parts of the different Commonwealths. So impressed are the Committee with this view, that they would express it as their decided opinion that the most imperfect system of weights and measures which has ever been framed, would, if applied in all the States of our Union, be preferable to the most perfect system which should be adopted by any one Commonwealth singly. The Constitution having delegated to Congress the

power "to fix the standard of weights and measures," there seems to be no doubt but that that body have authority to legislate upon such a system as has been offered for the consideration of the House of Representatives of this Commonwealth, in which the object is rather to fix standards so that they shall not be liable to change for the future, than to make innovations in existing legal standards. Indeed, in most of the laws of more recent origin adopted by several States, there is a distinct provision, that when Congress shall furnish a system of weights and measures for the United States, the temporary State standards shall be made to conform to the national standard. The exceeding importance of uniformity is thus distinctly set forth, from quarters of the highest authority in the different parts of our extended republic.

In the multitude of objects to which the national legislation must be directed, it is hardly to be wondered at, that no action should have taken place upon this one. If the wants of the States, or any of them, should be expressed, Congress could hardly fail to take up a subject upon which so much unanimity of view might be expected. Frequent consideration has been given by that body to providing a system of weights and measures, even without the stimulus just referred to, as appears by a reference to the analysis of their proceedings accompanying this report. So far as the collection of the revenue is concerned, the object of uniformity in the standards is near its accomplishment, under directions, issued from the Treasury Department of the United States, for the distribution of standards to the custom-houses; and thus one motive which might have induced the action of Congress is removed, and the necessity for exertion on the part of the States, to secure so desirable an object, is increased. That standards issued to the custom-houses can be substituted for national standards, even though legalized in the collection of the revenue, by an act of Congress, is obviously impossible: unrecognized by the laws of the States which contain no provisions deferring to such standards; not placed at all in some of the States, and but sparingly distributed in any, they could not, even by usage, and in violation of the State laws, become standards. They would tend merely to increase the diversity of standards, and unless conforming to those of the State in which they were introduced, would cause duties to be paid on commodities by one measure or weight which were sold by a different standard. The Committee would therefore most respectfully request the Managers of the Franklin Institute, to urge upon the House of Representatives, of this Commonwealth, to call the attention of Congress, through our Senators and Representatives, to the necessity of fixing the standard of weights and measures throughout the United States; and further to suggest that the co-operation of the Legislatures of other States be obtained by executive communication.

Your Committee feel satisfied that the House of Representatives of this Commonwealth may lay the subject now under consideration before Congress in a form so conveniently adapted to their legislation upon it, that a speedy action will be ensured. But should this action be delayed for two or three years, the inconvenience of action under existing laws, for such a period, would hardly counterbalance the probability of benefit to

be derived from legislation by Congress. If such just hopes should be disappointed, the people of this Commonwealth would then confidently look to the care of their legislature to furnish them with standards so essential to the dealings of all classes of the community.

COMMITTEE.

Alex. Dallas Bache,
S. V. Merrick,
William. H. Keating,
Rufus Tyler,
M. W. Baldwin,
Benjamin Say,
Asa Spencer,
Abraham Miller,
R. M. Patterson, M. D.
Sears C. Walker,
Benjamin Stancliff,
Thos. M'Euen, M. D.
Edmund Draper,
David H. Mason,
Benjamin Reeves,
Thos. P. Jones, M. D.
Frederick Fraley,
Samuel Moore, M. D.
Samuel Hains.

An Act to fix the Standards of Measures and Weights in the Commonwealth of Pennsylvania.

Section 1.—Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania, in General Assembly met, and it is hereby enacted by the authority of the same: That the standard unit of all measures of length shall be the "yard," to conform to that in use in this Commonwealth, at the date of the Declaration of Independence, the positive standard to be obtained as hereinafter described; and that one-third of said yard shall be one foot, and one-twelfth of said foot shall be one inch.

Section 2.—And be it further enacted by the authority aforesaid, That the standard of liquid measure shall be the gallon, to contain two hundred and thirty-one cubic inches of the standard aforesaid, and no more. And that the standard of dry measure shall be the bushel, to contain two thousand one hundred and fifty cubic inches and forty-two hundredths of a cubic inch of the standard aforesaid, and no more.

Section 3.—And be it further enacted by the authority aforesaid, That the standard of weight shall be a pound, to be computed upon the troy pound of the mint of the United States, referred to in the act of Congress, of 19th May, 1828, to wit—the troy pound of this Commonwealth shall be equal to the troy pound of the mint aforesaid; and the avoirdupois pound of this Commonwealth shall be greater than the troy pound aforesaid, in the proportion of seven thousand to five thousand seven hundred and sixty.

Section 4.—And be it further enacted by the authority aforesaid, That it shall be the duty of the Governor of this Commonwealth to procure, within — years from the date of the passage of this act, a standard yard, to constitute the positive standard of length in this Commonwealth; said standard to be equal in length, at the temperature of melting ice, to the distance between the eleventh and forty-seventh inches on a certain brass scale of eighty-two inches in length, procured for the survey of the coast of the United States, and now deposited in the war department. The material of said standard to be brass, and the divisions upon it to

be inches and parts of an inch of the brass scale aforesaid.

Section 5.—And be it further enacted by the authority aforesaid, That it shall be the duty of the Governor to procure, within — years after the passage of this act, for the use of this Commonwealth, a standard gallon and bushel, to conform to the provision of section second, of this act. The material of said standard to be cast brass.

Section 6.—And be it further enacted by the authority aforesaid, That it shall be the duty of the Governor of this Commonwealth to procure, within — years after the passage of this act, a duly authenticated copy of the troy pound of the mint of the United States, to constitute the positive standard of weight of this Commonwealth. The material of said standard to be brass.

Section 7.—And be it further enacted by the authority aforesaid, That it shall be the duty of the Governor of this Commonwealth to have the positive standards of measures of length and capacity, and of weight, provided by the foregoing sections, inclosed in suitable cases and deposited in the office of the Treasurer of this Commonwealth, to be by him there carefully preserved.

Section 8.—And be it further enacted by the authority aforesaid, That it shall be lawful for the Governor of this Commonwealth, when he shall deem it expedient, to have tested the conformity of said positive standards of measure and weight to the foregoing provisions of this act, or to the natural invariable standards hereinafter provided.

Section 9.—And be it further enacted by the authority aforesaid, That it shall be the duty of the Governor to provide, within — years after the passage of this act, for each of the counties of this Commonwealth, at the charge of the counties respectively, duly authenticated copies of the positive standards of measures of length, of capacity, and of weight, referred to in the foregoing sections, of the material therein referred to, and of approved construction. And having caused the same to be duly stamped, to have them delivered to the Commissioners of the counties respectively, to be used as standards for the adjusting of weights and measures, and for no other purpose.

Section 10.—And be it further enacted by the authority aforesaid, That it shall be the duty of the Commissioners of the respective counties, at least once in every ten years, and oftener if they have reason to believe it necessary, to cause the standards of the respective county to be examined and tried, and, if necessary, to be corrected or renewed according to the standards of the Commonwealth heretofore referred to.

Section 11.—And be it further enacted by the authority aforesaid, That it shall be the duty of the Governor, within — years after the passage of this act, to cause the positive standards, herein described, to be referred to natural invariable standards, and to deposit in the office of the State Treasurer the authentic certificates of such reference, with the apparatus by which it was made. The length of the standard yard to be compared with that of the pendulum vibrating seconds at a certain and defined spot in the Independence Square in the city of Philadelphia or in some unalienable public property, at an ascertained and convenient temperature and pressure; all the circumstances of the comparison to be stated. The standard of weight to be compared with that of one hundred

standard cubic inches of water, at its maximum density, and at a convenient atmospheric pressure.

An Act to fix the Denominations of Measures and Weights in the Commonwealth of Pennsylvania.

Section 1.—Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania, in General Assembly met, and it is hereby enacted by the authority of the same: That the denominations of linear measure of this Commonwealth, whereof the yard, as heretofore provided, is the standard unit, with the relations thereof, shall be as follows:

12 inches make 1 foot.
3 feet make 1 yard.
5½ yards make 1 rod, pole, or perch.
40 rods make 1 furlong.
8 furlongs make 1 mile.

Section 2.—Be it further enacted by the authority aforesaid, That the denominations of superficial measure of this Commonwealth, whereof the square of the linear yard, as heretofore provided, is the standard unit, with the relations to said standard, and to each other, shall be—

30¼ square yards make 1 pole or perch.
40 square poles make 1 rood.
4 square roods make 1 acre.
640 acres make 1 square mile.

Section 3.—Be it further enacted by the authority aforesaid, That the denominations of liquid measure of this Commonwealth, whereof the gallon, as heretofore provided, is the standard unit, with the relations to said unit and to each other, shall be—

4 gills make 1 pint.
2 pints make 1 quart.
4 quarts make 1 gallon.
31½ gallons make 1 barrel.
2 barrels make 1 hogshead.
2 hogsheads make 1 pipe.
2 pipes make 1 ton.

Section 4.—Be it further enacted by the authority aforesaid, That the denominations of dry measure of this Commonwealth, whereof the bushel, as heretofore provided, is the standard unit, with the relations to said standard and to each other, shall be—

4 pecks to make 1 bushel.

And the minor divisions of the peck shall be its aliquot parts. Provided, that the form of the dry measures shall be conical, that the diameter of the circle of the top of the measure shall be not less than one twentieth greater than the diameter of the bottom of the measure, and the height not more than nine twelfths of the diameter of the bottom.

Section 5.—Be it further enacted by the authority aforesaid, That the denominations of weight of this Commonwealth, whereof the troy pound, as heretofore provided, is the standard unit, with the relations thereof to said standard and to each other, shall be—

24 grains make 1 penny-weight.
20 penny-weights make 1 ounce.
12 ounces make 1 pound.

Section 6.—Be it further enacted by the authority aforesaid, That the denominations of weight of this Commonwealth, whereof the pound avoirdupois, as heretofore provided, is the standard unit, with the relations to said pound and to each other, shall be—

16 drams make 1 ounce.
16 ounces make 1 pound.
25 pounds make 1 quarter.
4 quarters make 1 hundred.
20 hundreds make 1 ton.

On the Proposed Ship Canal from Oswego, through Utica, to Albany.

To the Editor of the Railroad Journal:

SIR—Having understood that you were one of the advocates for the proposed ship canal, from Oswego through Utica to Albany, I have transcribed the following facts, and have added a few suggestions in relation to them, with a view to their insertion in your paper. I shall deem myself amply repaid for the trouble I have taken, if it is the means, in however humble a way, of engaging the attention of our citizens towards this highly important object. The idea of a water communication from Lake Ontario to the Hudson is by no means one of those forced and chimerical projects by which the present day is so eminently characterized; indeed, we believe that it is the first towards which any attention was turned. As early as the year 1791, Mr. Elkanah Watson, one of the Commissioners of the Indian Treaty at Fort Stanwix, travelled as far west as the village of Geneva, and so impressed was he, by his personal observation, of the practicability, and comparatively small outlay of an internal navigation from Albany to Oswego, that in a letter written to a friend while on his very first excursion, he says, "We are sailing parallel to the great Ontario Ocean, which I hope to see; and enjoy in delightful anticipation the prospect of a free and open water communication from thence to the Atlantic via Albany and New-York." Upon his return, he immediately communicated the result of his observations to General Schuyler, with a view of obtaining the influence of this great man towards bringing the project, in some shape, before the Legislature of the State: with what success, the writer is not aware. The ensuing year, however, the "Western Inland Lock Navigation Company" was incorporated, for the purpose of improving the navigation of the Mohawk and Seneca rivers, and of opening a communication between both, by means of Wood creek and Oneida lake; and eventually to effect a complete communication with Lake Ontario. Owing, however, to the want of the necessary means, little else was done than the construction of the locks at Little Falls, and some trifling improvements in the Mohawk. The Erie Canal at that time became the all-absorbing project, and merged in itself the little interest that had been excited in this, at that day considered, minor undertaking.

We have mentioned the above facts in support of the assertion, this project is not the result of a day's growth. Surely, the remark of the "time not having yet arrived for agitating this question when can hardly be thought valid," we see that, even at a time when the immense forest west of Utica was a stranger to the sound of the axe, when even the name of the Erie Canal was as yet unknown, men were found so convinced of the importance of this work, as to have organized themselves into a company, and to have actually commenced the construction of a work having the very same objects in view as that which we are at present advocating. As soon, however, as the experiment of the Erie Canal was successfully tested, the old project of a communication with the lake was again revised; and after some little delay, the year 1826 witnessed the commencement, and 1828 the completion, of a canal, of the same dimensions, from Oswego to Salina. This, together with the one proposed from Sodus Bay to Montezuma, has for its object the interception of the lake trade. The necessity, however, of a transhipment at the harbors of Oswego and Big Sodus, from the larger craft of the lake to the smaller barges of the canal, has so much increased the cost of transportation as will inevitably prevent their attaining in any great degree the objects proposed by the Ship Canal.

Fully alive to their interests the inhabitants of Oswego and Utica have since been taking the necessary preliminary steps, the Legislature has been petitioned—committees have

been appointed for the collection and transmission of information on the subject, and with a view to engage the attention of the people towards this project.

We have endeavored in the above to give some little history of the Canal. We would now adduce some few facts, and endeavor to prove by them that the day has arrived when the State in general, and the City in particular, (if they would consult their own interests,) are called upon to take immediate measures towards the construction of this work.

The policy of Great Britain towards her Canadian colonies is one of the utmost liberality. She is fully aware of the great facilities they possess by nature, and she is rapidly improving those facilities by the most magnificent works of art. The Rideau Canal, and that now constructing round the Rapids, have proved that the river St. Lawrence is not the bugbear we always believed it to be. The success of the Welland Canal is no longer a matter of speculation. The Ship Canal from Lake Huron to Lake Ontario is now under examination by British engineers. The St. Johns and Chambly Canal will be finished in a year. In short, on our whole frontier, such preparations are making, as will, if not shortly counteracted by our own exertions, divert from us our boasted trade; and which, in peace, will feed the treasury, and, in war, will nerve the energies of a jealous and enterprising commercial rival. Every inducement is now offered by the government for emigration to their colonies. The climate of Upper Canada is as genial, the land as fertile, and the facilities of purchasing and settling as great as in any of the States. And we need only mention that there were 50,000 emigrants landed last year at Montreal, to prove that the tide of emigration is setting towards the Canadas.

Such is the present state of things abroad; let us now turn our attention to our sister cities. Among them, too, the spirit of improvement is making the most rapid progress. Boston, Philadelphia, Baltimore, Washington, and Charleston, are all, (some by canals and some by railroads,) making every exertion to secure for themselves a portion, at any rate, of the trade of the "far west." Pennsylvania is the most ambitious competitor we have to contend against. By her increased and increasing facilities, she is rapidly driving us from the valley of the Mississippi. Owing to the lateness of the season at which the harbor of Buffalo is clear from the ice, our Erie Canal is a nullity till about the 20th April, full six weeks later than the Pennsylvania Canal.

Differences seem to have arisen between the New-York and Ohio Canal Boards, which have produced a conditional resolution of the Ohio Commissioners for doubling the rates of toll on the Ohio canals, on all merchandise transported in a direction from Lake Erie." And even if this unfortunate collision should be adjusted, Pennsylvania is determined to avail herself of all her advantages, and by an immediate extension of her Beaver Canal, intercept, at the mouth of the Conneaut at Lake Erie, that trade upon which our Canal mainly depends. Thus, fellow-citizens, do we see that while we are vainly relying on the infallibility of our one canal, our powerful neighbors are not leaving a stone unturned to effect their object. Should this state of things be allowed to continue without any exertion to counteract its evil effects, the day is not far distant when we shall be obliged to yield to another that enviable distinction, which we have so long held, of the "great commercial emporium."

Let us now look upon the reverse of the picture, and consider the means we possess for an effectual means of preserving our western trade.

Small as is the Oswego Canal, and notwithstanding the necessity of the transhipment on the lake, goods are now carried from

New-York to Cleveland for a less price by way of the lake than by the Canal, as will appear by the following.

"Comparative View of Expenses in the transportation of Merchandise from New-York, via the Erie Canal and Buffalo, to Cleveland, Ohio, and by the new channel of Lake Ontario and the Welland Canal, to the same place."

The present regular price for transportation from New-York, per the Erie Canal and Buffalo, to Cleveland, as charged by Hart, Griffith & Co. and others, is,
For dry goods, per 100 lbs. - - - \$1 56
On all heavy goods, per 100 lbs. - - - 1 45

The present regular price for transportation from New-York, via Oswego, Lake Ontario, and the Welland Canal, to Cleveland, as charged by I. S. Wyckoff, agent for Troy, Oswego, and Ohio Line, is,
For dry goods, per 100 lbs. - - - \$1 20
On all heavy goods, per 100 lbs. - - - 1 09

The Ontario channel is a new one, and forwarders say the price of freight will be reduced when vessels are built better adapted to the Welland Canal navigation. Vessels are now building for this purpose, to carry 180 tons."

How much the more, then, will we be enabled to compete with other means, if we do away, by the ship canal, this extra transhipment.

Objections have been urged against the risk incurred by the navigation on the lakes. We need only, we think, adduce the fact, that insurance is effected at as low a rate upon them as on our inland canals. Harbors are numerous on all the lakes; on Ontario are Oswego, Big Sodus, Genesee, and Braddock's Bay; on Erie are Black Rock, Buffalo, Dunkirk, Erie, Conneaut, Ashtabula, Cunningham, and Cleveland. There are also harbors at the mouths of Grand, Black, and Huron rivers; in all of which, improvements requiring immense outlays of money have been made, under a judicious system of operations, by the General Government. Nature, too, in favoring us with a milder climate than Montreal and Quebec, has done much to aid us. All then we want to divert into our own lap the trade and resources of this immense section of country is the ship canal. Let this communication be once effected, and "hundreds of ships that now bound upon the billows of these inland seas," bearing away to our neighbors, for want of a market at home, our own productions will seek this easiest, and most natural channel. Let us awake, then, fellow citizens, to our own interests, ere yet it is too late: exert ourselves now, and in three years' time, with an expenditure of only 2,000,000 of dollars, we are safe.

In the coming session of the Legislature this project will be submitted for their consideration; we have no doubts for its result—the means only are wanting; and we hazard little in saying, that the name of that statesman, who, throwing aside the petty trammels of party politics, shall frigate to a successful completion the Ship Canal, shall be handed to latest posterity, hallowed by the association with that of the "immortal Clinton." B.

[FOR THE NEW YORK AMERICAN.]

Oswego, August 27, 1834.

Mr. Editor: I noticed in your paper of the 22 inst. an article signed "Pearl street" on the subject of the contemplated convention at Utica on the 11th of next month, to consider the project of a Ship Canal from Oswego to Utica, and thence to the Hudson. The writer is evidently unacquainted with the object in question, although he treats it, in a manner, as if he was quite au fait. Permit me through your columns to furnish to "Pearl street," and others, some of the principal reasons that will probably be offered to the convention at Utica in favor of the project.

1. The vast superiority in point of economy in transportation effected upon natural water communications admitting of navigation by large vessels or Steamboats, over transportation upon Canals and

Railroads. This has been satisfactorily proved by experience on the Hudson, the Lakes and the great rivers of the west—for instance, a bushel of wheat is now carried from Troy and Albany to New York, for three cents, while the same transportation for a like distance upon the canal can not be effected for less than ten cents: the conclusion therefore seems unavoidable, that if the products of the west can find a passage to the Ocean by Steamboats or other large vessels, they will undoubtedly seek that channel.

3. The extraordinary efforts now making in the Canadas for the improvement of the great natural navigable facilities existing within those Provinces, namely, the gigantic work in progress on the St. Lawrence of locks 200 feet in length, 55 feet in width, and 9 feet in depth from the mitre sill. The existence of the Welland Canal, connecting Lakes Erie and Ontario by a ship canal, with locks of 110 feet in length, 22 feet in width, and 8 feet in depth; probably to be hereafter enlarged to a corresponding size with those now constructing on the St. Lawrence. The contemplated construction of a Railroad from Queenstown to Chippewa. The easy connection by ship canal, of Lake Huron, through Lake Simcoe, with Lake Ontario, now being surveyed by order of the Canadian Government.

3. Communications will be laid before the Convention from the ablest Engineers, proving that a ship canal can be constructed with ease from Lake Ontario, via Oswego and Oneida Lake, to Utica, at a cost of less than one million of dollars, and although the cost from Utica to the Hudson will be considerably greater, that it is easily within the means of the State.

4. It will be urged that the existence of the Welland Canal, and the improvements on the St. Lawrence, not only destroy the arguments used by the Canal Commissioners in their report of 2d March, 1811, to the Legislature, against the route by Oswego, but actually prove the necessity of its being adopted on the most enlarged plan it is capable of, without further delay.

In that famous report the Commissioners say: "Two routes have been suggested to obtain the trade of the West; one, the direct communication to Lake Erie, now adopted—the other, a cut round Niagara Falls, and from Albany by Rome to Oswego, terminating the Canal there." Notwithstanding that limited pecuniary resources were at that time a great impediment, still on a comparison of the cost and obstacles of the former with the latter, they put the interrogation, "Whether being less difficult and expensive, it would not be advisable to descend into Lake Ontario, rather than encounter the difficulty and expense of the other course?" To which they reply: "The Commissioners believe it would not: and without relying as they might for support of their opinion on the comparative expense of transportation, it is sufficient to say, that articles for exportation, when once afloat on Lake Ontario, will, generally speaking, go to Montreal, unless our British neighbors are blind to their interests."

5. It will be stated, that the Erie Canal from Buffalo to Albany will in a few years scarcely suffice for the transportation of the produce of our own State, much less carry that of the great West, should the cost of transportation even be no obstacle.

6. It will be shown, that unless a cheaper mode of transportation of the produce of the West can be adopted, it must and will in a few years hence find its way down the St. Lawrence! I will here instance the effect it may have in our own State: The freight of a barrel of flour from Rochester to New York, on the Erie Canal, is not less 62 1/2 cents—from Oswego, 58 cents. A great quantity of Western flour is annually sent to Boston, &c. Let the improvements on the St. Lawrence be once completed—namely, locks of 200 feet long, 55 feet wide, and nine feet deep—what will prevent our Eastern merchants from constructing suitable vessels of a large class, and carrying to Oswego, Rochester, &c., their fish, their oil, and thousand other bulky articles, and bringing away our Western flour and other produce.

Sir, we ask no favors from your citizens—we only wish to open their eyes to their true interests! For that purpose the Utica Convention has been called; and if "Pearl Street" can point out a better plan to secure the Western trade to New York, I for one shall cheerfully submit to the loss of the few crumbs that I expect to fall to my share if the object of the Utica Convention should be carried into effect. All we desire is to arouse the New York merchants from the state of lethargy and security in which they have been for some years past. Let them look to Pennsylvania, and they will learn that Cotton and Tobacco are now coming up the Ohio to Pittsburgh, and are thence brought to Philadelphia in considerable

quantity. I have heard from good authority that flour is brought from Pittsburgh to Philadelphia for 75 cents per barrel. And what, I ask, will be left to New York of the great western trade, when the Canadian improvements once completed, offer a still cheaper channel than any now existing for the transportation of the bulky products of the West.

I am, with great regard, your most obt. serv't.
AN OLD MERCHANT.

[FOR THE NEW YORK AMERICAN.]

MR. EDITOR: As the newly raised regiment of Dragoons have, ere this, started on their summer campaign, one object of which seems to be to effect a treaty with the Pawnees, I have thought that a brief account of these Indians might not prove unacceptable, and; perhaps, in this armed truce of politics would serve to fill a column of the "American," not devoted to more important matters.

The Pawnees may be divided into two classes or tribes, the Pawnee Piqua's; or Pawnees of Arkansas and Texas, and the Pawnees of the Missouri. The former are a roving race like the Sioux, have no permanent villages, and when not engaged in predatory excursions, follow the range of the Buffalo. It is of course difficult to estimate their numbers: however, I should suppose that 3000 warriors would be within bounds. They must be numerous; for their war parties often amount to 3 or 400, and they have been known to carry on, at one time, successful wars both against their ancient enemies, the Osages, and the Mexican tribes of Comanches and Tetonas. Their language is the same with that of the Pawnees of the Missouri, with whom they are on friendly terms, although there exists no formal alliance between the tribes, unless, which is not unlikely, a league has recently been made. They are good horsemen, and are well supplied with large droves of that noble animal. Their arms and mode of fighting are similar to those of the Pawnees of the Missouri.

The Pawnees of the Missouri consist of three bands, residing in separate villages. They are in strict alliance, and may, perhaps, bring into the field 2500 or 3000 horses. They are called—the Pawnee Republicans, whose village is on the Republican branch of the Kansas—the Grand Pawnees and the Pawnee Loupa. The towns of the two last are on the La Platte, and within a few miles of each other. A Pawnee village consists merely of a promiscuous collection of Dirt Lodges; these are spacious and permanent dwellings: a description of them would not probably be new to your readers. For some months in the year the whole tribe are absent on the Buffalo Hunt: they then live in Skin Lodges. A Pawnee Brave in his war dress is a truly formidable looking personage: he wears an enormous head dress, formed of feathers of the eagle, the swan and other large birds, a necklace of the claws of the grizzly bear, and leggins of deer-skin, grotesquely embroidered with quills of the porcupine; the edges are fringed with feathers and tufts of horse hair, dyed of various colors, and not unfrequently human scalps interspersed with beads and small bells. The buffalo robe floats loosely in the wind, and is secured around the waist by a girdle, leaving the arms, face and the body naked, and smeared with parti-colored pigments in quaint figures. The face is also painted in the same savage taste; black, the war color, always predominates. His horse, a fine animal of the wild breed of Mexico, is gaily caparisoned with broad leathern bands, on which are sewed beads and pieces of colored cloth, and fringed with feathers, bells, and small pieces of tin and other metals. For arms, he uses the bow, which is short, and well adapted for use on horseback: it is usually ingeniously made of ribs of the buffalo, strengthened with sinews of the elk or deer: his quiver, formed of panther or bear skin, hangs at his back, well stored with arrows; these are well feathered, and 30 inches in length, without the head, which is of iron, very long and narrow, and loosely fitted to the shaft: the lance is 7 1/2 feet in length, sharp pointed and adorned with feathers: the war-club, which usually hangs attached to the saddle, is about 3 feet long, and is made of some heavy wood; the head is often armed with iron spikes, inserted in the wood, and is similar in form to the ancient mace: this formidable weapon is equally adapted for close conflict, or to be

hurled by the hand. The knife and tomahawk, as other Indians. A very few are (or rather were) armed with carbines. The shield now only remains to complete his equipments: it is circular, about two and a half feet in diameter, and is formed of prepared buffalo skin, called by the trappers Pas (querre Pare?) Fleche; it is ornamented with rude emblazoning, fringed with feathers and bells; when not in use it is slung by the side of the quivers. The shield is an admirable defence in conflicts with an Indian foe; for when mounted the Pawnees discharge their arrows from under their horses necks; then with the assistance of the shields their bodies are almost entirely protected.

From the roving habits of these tribes, I think the prospect of finding them in their villages is but faint: they will either be absent on their annual hunt, when their lodges are nearly deserted, or what is still more likely, the approach of so large a force will excite their natural distrust to such a degree, that they will at once retire en masse to their distant encampment in the desert, or in the gorges of the mountains, whence they will not emerge until compelled by the approach of winter. Thus there is little probability, even were it desirable, that our troops will come into collision with these Indians; for although brave, they never attack but with the chances in their favor. Like other savages, the Pawnee always endeavors to surprise his enemy, and like them prefers an hour or two before dawn, and a dark and stormy night. An impetuous charge is made; and if at all successful, the contest rages for hours with the greatest fury; but should they be too warmly received at the outset, or lose many warriors in the course of the fight, they retreat at a preconcerted signal, scattering into small parties, to divide and distract the attention of their pursuers, and when in safety make for the distant rendezvous previously appointed.

ALPHA.

Love and Romance.—A greater number of young girls, between the age of fifteen and eighteen, and of young men between eighteen and twenty-four, fall victims to what they call love, than any other particular class of disease—and more particularly in England and Ireland than any other country on earth. This is from the force of early impressions peculiar to those countries, and of comparatively recent growth, the effect produced by a certain class of romance writers. These writers give an obliquity to the young mind which leads to destruction. Scarcely has a young girl laid by her *Reading made Easy*, when she becomes a subscriber to some trashy library, and the hours which, in the country, or in a land where education is unknown, they would employ in jumping about in the open air, are now consumed with intensity of thought upon the maudlin miseries of some hapless heroine of romance, the abortion of a diseased brain. Her imitiveness, as Spurzheim would phrenologically observe, becomes developed, and she fixes on her favorite heroine, whom she apes in every thing—sighing for her sorrow, and moaning to be as miserable. She fixes immediately upon some figure of a man—some Edwin or Edgar, or Ethelbert, which she thinks will harmonize with the horrors of the picture, and she then enjoys her tears and her tortures to her heart's satisfaction. Languor, inaction, late hours, late rising, and increasing sighing, derange her digestion—paleness, loss of appetite, and general debility follow; the cause continues, the effect increases, and hectic fever puts an end to the romance. We have known a young Irish lady who read herself into this situation. She was, at the age of 13, as lively, as healthy and as beautiful a little promise of womanhood as that country ever produced. When the Leadenhall-street romancers crossed her way, an officer of a very different sort of troop became her hero. She would "sit in her bower" (the second floor window) and gaze—and gaze upon his steed, his helmet, and his streaming black-haired crest, as he passed to mount guard, until she sobbed aloud in an extacy of melancholy. She never spoke to this 'knight,' nor did she even seek to have an acquaintance—lest, perhaps, that a formal proposal, a good leg of mutton dinner, and all the realities of domestic happiness might dissipate the sweet romantic misery she so much delighted in. A year passed over—she pined in thought, and with a green and yellow melancholy, entered a convent (for that is the climax of romance,) where she died in a few months.—[Medical Advertiser.]

The Emperor of Russia has, through the medium of Baron de Krudener, Minister Plenipotentiary at Washington, presented Joshua Shaw, Esq. Artist, of Philadelphia, with \$500, for an improved percussion cannon lock, invented by Mr. Shaw.

NEW-YORK AMERICAN.

AUGUST 30—SEPTEMBER 6, 1834.

LITERARY NOTICES.

LETTERS ON PRACTICAL SUBJECTS, TO A DAUGHTER, by WM. B. SPRAGUE, DD., Pastor of the Second Presbyterian Church, Albany. Third American edition, revised and enlarged. New York, D. A. FLETCHER & Co.—It is no longer asked now, with a supercilious air, in England, "who reads an American book?" American books not only are read, but, as we find by some prefatory remarks in the well printed and handsome volume before us, they are sometimes printed—and, with slight alterations, reprinted as English works.

Such, it seems, was the fate of Dr. Sprague's "Letters to a Daughter," originally published anonymously in this country. A genuine edition of the work was circulating in England under the direction of the London Tract Society, when a Glasgow bookseller seized upon it, made some omissions but no additions, and put forth a volume under the title of "The Daughter's Own Book." By this title it was republished in Boston, as a book of foreign origin—and by this title it was noticed and praised in this paper, without any suspicion, as far as we remember, of its being a piracy.

The present edition is issued under the sanction of Dr. Sprague's name, and is the only one therefore for which he is in any way responsible. It remains only for us to say, that the terms of commendation in which we spoke of "the Daughter's Own Book," we very cheerfully, and with greater emphasis, desire to repeat of "Letters on Practical Subjects to a Daughter." We present the whole of Letter XI—not as better than others, but as treating of a topic that is not always sufficiently considered by young persons.

Intercourse with the World.

MY DEAR CHILD,—In several of the preceding letters I have taken for granted that you are to mingle, in greater or less degree, in society. It is equally essential to your respectability and usefulness, that you should not live the life of a recluse. The constitution of your nature and the circumstances of your condition clearly indicate that you were made to be social. As it is a subject, however, in relation to which there is a strong tendency to extremes, and on which you will be in great danger of being misled, I shall suggest a few thoughts in the present letter, which may serve to aid in forming your opinions and directing your conduct.

I begin my advice to you on this subject by a caution that you should not make your entrance into society at too early a period. It too often happens that girls, long before they have completed their education, and even at a comparatively early stage of it, have contracted a strong relish for being in the world; and unless prevented by the influence of parents or instructors, they are found thus prematurely in the gayest circles of fashion. The consequence of this is, that at best, a divided attention is rendered to their studies; that their opportunities for intellectual improvement are enjoyed to little purpose; and that the period in which should be laid the foundation of a solid and useful character, is perverted to the formation of a habit of mental inaction, and not improbably to cherish a spirit of intolerable vanity.

Now I do not insist that you should actually decline all society up to the time of completing your education; but I wish that your visiting, previous to that period, should be, for the most part, of an informal character; and that you should not generally consider yourself at liberty to accept invitations, even if you should receive them, to mingle in set circles. This accidental intercourse of which I have spoken, is all that will be necessary during the period of your education, to aid you in the formation of your manners; and any thing beyond it will almost inevitably interfere with your intellectual improvement, and of course detract from your ultimate standing in society.

Let me assure you too that you will be far less acceptable in society, if you make your appearance prematurely, than if you wait till a proper period. The common sense of the world is quick to discern any impropriety on this subject; and if, while you are yet a child, you are seen among those of mature age, virtually claiming to be as old as they, you can

expect nothing else but that you will be set down as deficient either in modesty or good sense. Better for your reputation that you should come too late into society than too early; for though in the one case you might lose something in point of manners, yet in the other you would lose more in the estimation of the world, on the score of delicacy and correct judgment.

It is not more important that you should avoid going into society too early, than it is, that when you do enter it, you should avoid mingling in it too much. One bad effect of this would be, that it would leave you with too little time for the discharge of your private and domestic duties. The culture of your mind and heart, in connexion with the ordinary cares of domestic life, requires that a large part of your time should be spent at home; and you cannot, without great injustice to yourself, and those with whom you are connected, neglect these more private duties, for the sake of being always in the bustle of the world. It is a rare thing that you will find a lady who devotes an undue proportion of her time to visiting, but that if you follow her into the domestic circle, to the chamber and the fireside, you will find that she evinces a proportional neglect of some of the duties belonging to the station she occupies. She is either neglecting to cultivate her understanding, or neglecting to keep her heart, or neglecting to use the means which Providence has put into her hands for the intellectual and moral improvement of those with whom she is immediately connected.

Recollect also that the error against which I am endeavoring to put you on your guard, would not only prevent your attention to more important duties, by occupying the time which should be allotted to them, but it would serve actually to give you a distaste for those duties. Allow yourself in a constant round of company, even for a short period, and it will be strange indeed, if you do not begin to feel that company is your only element; if you do not, in a great degree, lose your relish for the pleasures of the domestic fireside; if you do not find yourself complaining of ennui, when you happen for a season to be providentially shut up at home. I need not stop to show how entirely such a habit of feeling must disqualify a female for the most important relations she can ever sustain.

Moreover, an extravagant fondness for society, and an excessive indulgence of this inclination, are almost sure to create a habit of dissipation, both as it respects the intellect and the feelings. The mind, by being conversant with the ever varying scenes of social life, loses, in a great degree, the command of its own powers; and the attempt to concentrate them on any particular subject, were scarcely more likely to succeed than would be an attempt to collect every mote that was floating in the surrounding atmosphere, while the atmosphere was agitated by a whirlwind. The moral feelings too are subject to a similar influence; for not only is there usually an entire absence of self-communion, and all that secret discipline of the affections, which is essential to the right keeping of the heart, but too often there are the levities of the world, scenes from which there is a studied exclusion of religion, and even a designed introduction of much that is fitted to bring religion into contempt. I do not say that this evil, in its whole extent, is commonly found in any of the walks of decent society; but I do say that it sometimes exists in the frightful dimensions which I have attributed to it; and that it commonly exists in so great a degree as to render an excessive intercourse with the world a fruitful source of mischief.

You will anticipate me when I say, in this connexion, that it becomes you to use the utmost caution in selecting the circle with which you are to associate. I hardly need admonish you to set it down as a fixed purpose that you will never, intentionally, be found in any circle in which there is any thing to encourage immorality, or any lack of reverence for the sacred principles and precepts of religion. I would have you, moreover, beware of mingling in the gay world; in scenes which are designed to produce an unnatural and feverish excitement of the spirits, which are fraught with no intellectual or moral advantage, and in which the introduction of grave or useful discourse would be the signal for disquietude or disgust. I do not, by any means, insist that your associates should all be from the number of those who are professedly or actually pious; nor do I object at all to your intercourse with them being of a cheerful, and sometimes, if you please, an amusing character; but I do insist that they should be persons of correct moral views and habits, and that your associating with them should be for some higher purpose than merely to kill time, or to cultivate a

spirit of trifling. It were desirable too, as I have had elsewhere occasion to remark concerning your particular friends, that the circle with which you chiefly associate, should possess a good degree of intelligence; that thus your social intercourse may be instrumental of improving not only your heart but your understanding. If you take due precautions on this subject, the time that you pass in society, instead of being lost, may subserve, in a high degree, your most important interests; while the neglect of such precautions will render the same hours a mere blank in the period of your probation.

It is natural and proper that those with whom you chiefly mingle should be from the same walks of life with yourself. You may, however, sometimes providentially be thrown among those, the circumstances of whose birth and education have given them a rank quite superior to any which you can claim; and as the case may be, persons of this character may proffer you their confidence and friendship. In all cases of this kind, never suffer yourself to be deluded by any thing that is connected with the pride or circumstance of life; and do not think it a privilege to mingle in society of the most elevated worldly rank, provided there be any thing in it to put in jeopardy your moral principles and feelings. And let me say too, that, though you may very properly accept a fair and honorable introduction into any circle, no matter how elevated, yet you ought never, by a single action, word, or look, to signify a wish for any such distinction. It would indicate a species of ambition certainly not the most honorable, and if you should accomplish your object, it is more than probable you would meet the reception which is due only to an intruder.

You would do injustice to yourself, and be wanting in the discharge of your duty, if you should not occasionally, and even frequently, mingle in the lower classes of society. Not that I would be an advocate for confounding or annihilating those distinctions which Providence has manifestly ordained; nor would I have you, in your intercourse with those in the humble walks of life, lose sight of the mutual relations which you and they sustain to each other.

But I would have you go among them with the benign aspect of friendship; I would have you make them feel that you recognize them as fellow creatures, placed in many respects on the same level with yourself; and I would have you leave an impression upon their minds that the adventitious distinctions of life are really of little moment, compared with those points in relation to which all stand upon an equality. The condescending yet dignified familiarity which this species of intercourse would discover, would do more than you can easily imagine, to render the poor contented and cheerful, and to secure for yourself their gratitude and confidence. And let me say too, that its influence upon your own heart would be most salutary; that it would serve to refine and elevate your social affections, and confer dignity on your whole character.

There is one more point involved in the general subject of this letter which is too important to be omitted—I refer to the deportment which it becomes you to maintain towards the other sex. The importance of this, both as it respects yourself and others, you can scarcely estimate too highly. On the one hand, it has much to do in forming your own character; and I need not say that any lack of prudence in this respect, even for a single hour, may expose you to evils which no subsequent caution could enable you effectually to repair. On the other hand, the conduct of every female who is of the least consideration, may be expected to exert an influence on the character of every gentleman with whom she associates; and that influence will be for good or evil, as she exhibits or fails to exhibit, a deportment that becomes her. Indeed, so commanding is this influence, that it is safe to calculate upon the character of any community, from knowing the prevailing standard of female character; and that can scarcely be regarded as an exaggerated maxim, which declares that "women rule the world."

Let me counsel you then never to utter an expression, or do an act, that even looks like soliciting any gentleman's attention. Remember that every expression of civility, to be of any value, must be perfectly voluntary; and any wish on your part, whether directly or indirectly expressed, to make yourself a favorite, will be certain to awaken the disgust of all who know it. I would not recommend to you any thing like a prudish or affected reserve; but even this were not so unfortunate an extreme, as an excessive forwardness. While you modestly accept any attentions which propriety warrants, let there be no attempt at artful insinuation on the one hand, or at taking a man's heart by storm on the other.

Be not ambitious to be considered a belle. Indeed I had rather you would be almost anything else that does not involve gross moral obliquity, than this.—It is the fate of most belles that they become foolishly vain, think of nothing, and care for nothing, beyond personal display, and not unfrequently sacrifice themselves in a mad bargain, which involves their destinies for life. The more of solid and enduring esteem you enjoy, the better; and you ought to gain whatever of this you can by honorable means; but to be admired, and carressed, and flattered; for mere accidental qualities, which involve nothing of intellectual or moral worth, ought to render any girl, who is the subject of it, an object of pity. You are at liberty to desire the good opinion of every gentleman of your acquaintance; but it would be worse than folly in you to be ambitious of a blind admiration.

I will only add, that you ought to be on your guard against the influence of flattery. Rely on it, the man who flatters you, whatever he may profess, is not your friend. It were a much kinder office, and a real mark of friendship, to admonish you tenderly, yet honestly, of your faults. If you yield a little to flattery, you have placed yourself on dangerous ground; if you continue to yield, you are not improbably undone. Adieu for the present.

YOUR DEVOTED FATHER.

ÆSCHYLUS—constituting Vol. XIII. of *Harper's Classical Family Library*. New York: HARPER & BROTHERS.—The translation here offered of the Tragedies of Æschylus is by the Rev. R. PORTER; and it is received by scholars as one giving as distinct a glimpse, as translation ever can, of a great original. The volume is preceded by an Essay, or a large portion thereof, on the Grecian Drama, &c. together with a Memoir of Æschylus, from the pen of Mr. Harford, which that gentleman had prefixed to his translation of *Agamemnon*. To the scholar and to the unlearned both, this will be a welcome volume.

THE CHRISTIAN YEAR—Thoughts in Verse for the Sundays and Holidays throughout the Year—Phil: CAREY, LEA & BLANCHARD.—The author of these "Thoughts in Verse," beautiful and breathing, is the Rev. Mr. KEBLE, Professor of Poetry in the University of Oxford. The American Editor we take to be the Right Rev. Bishop of New Jersey—himself a poet, and the more alive, therefore, to the poetical beauties of a work devoted to aid the influence of the sublime Liturgy of the Episcopal Church.

"Apart from its high poetical merit," says the American Editor, "the Christian Year is recommended most earnestly for its pure, affectionate and elevating character, as a family book." We cannot more effectually confirm the opinion thus expressed, than by copying the lines on

HOLY BAPTISM.

Where is it, mothers learn their love?—
In every Church a fountain springs
O'er which the eternal Dove
Hovers on softest wings.

What sparkles in that lucid flood
Is water, by gross mortals eyed:
But seen by Faith, 'tis blood;
Out of a dear Friend's side.

A few calm words of faith and prayer,
A few bright drops of holy dew,
Shall work a wonder there
Earth's charmers never knew.

O happy arms, where cradled lies,
And ready for the Lord's embrace,
That precious sacrifice,
The darling of his grace!

Bless eyes, that see the smiling gleam
Upon the slumbering features glow,
When the life-giving stream
Touches the tender brow!

Or when the holy cross is sign'd,
And the young soldier duly sworn
With true and fearless mind
To serve the Virgin-born.

But happiest ye, who seal'd and blest
Back to your arms your treasure take,
With Jesus' mark impress'd
To nurse for Jesus' sake:

To whom—as if in hallow'd air
Ye knelt before some awful shrine—
His innocent gestures wear
A meaning half divine:

By whom Love's daily touch is seen
In strengthening form and freshening hue,
In the fix'd brow serene,
The deep, yet eager, view.

Who taught thy pure and even breath
To come and go with such sweet grace?
Whence thy reposeful faith,
Though in our frail embrace?

O tender gem, and full of heaven!
Not in the twilight stars on high,

Not in moist flowers above,
See we our God so nigh.

Sweet one, make haste and know Him too,
Think on adopting Father love,
That like thine earliest dew
Thy dying sweets may prove.

We should add, that the typographical execution of the volume is excellent.

A HISTORY OF THE CHURCH, FROM THE EARLIEST AGES TO THE REFORMATION. By the Rev. GEORGE WADDINGTON, M. A. Fellow of Trinity College, Cambridge. 1 vol. New York: Harper & Brothers.—We have here, by a Protestant Episcopal clergyman, a history that strikes us, from the perusal of many of its chapters, as eloquent, learned, and impartial—if impartiality can be attained by any one who has strong and honest convictions, that amid contending sects, his own is clearly right.

The history of the Church is, in some sense, the history of the errors and wanderings, of the vices and virtues, of our common nature. It is, therefore, of more universal interest than any mere profane history. It is, too, addressed to our eternal as well as temporal interests. We think that Mr. Waddington has imparted to this volume, large as it is—for it contains nearly 600 pp. of double columns—such a degree of attraction, that will commend it to readers of all classes.

The book is stereotyped, and in a fine, clear, legible character. Extracts are, of course, quite insufficient to impart any just idea of such a work as this. In presenting the following, therefore, we are rather tempted by the circumstance, that in his narrative of the persecution of the Christians by Marcus Antoninus, Mr. Waddington opposes himself directly to the authority of Gibbon:

Marcus Antoninus.—It seems singular, that a historian, who makes great profession of candor and universal humanity, should almost have excepted from the number of persecutors the only name (as far at least as this part of our inquiry) to which that ignominious designation appears justly and certainly to belong: for under all the preceding emperors, the injuries inflicted upon the Christians had either been occasional, as arising from some casual circumstance, or staining only a portion of their reign; or partial, as confined to a few provinces, or perhaps cities of the empire. Moreover, they had been sometimes excited, and generally encouraged, by popular irritation; they had been directed against a small and obscure and calumniated sect, through the operation, and according to the seeming intention, of the ancient statutes. And the efforts of individual emperors, were, for the most part, turned rather to the suspension or mitigation of these statutes than to the rigid enforcement of them. In addition to this, let us not forget, that those individuals possessed little means or opportunity to inform themselves respecting the peculiar principles, doctrines, or habits of Christians; still less to examine the foundation of their belief, or even to understand that it had any foundation:—if they permitted the work of destruction to proceed, it was in ignorance and blindness. On the other hand, Marcus Antoninus undertook the task of 'punishment' or prosecution among the earliest of his imperial duties, and he continued to fulfil it with unremitting diligence throughout the nineteen years of his splendid administration. He acted on liberal principles, and his principles were not of partial or local operation, but were equally applicable to every province of his empire. And thus he every where enforced the laws in their full severity; the lives and the property of the convicted were forfeited by the most summary process of justice; and the search which was made after the suspected, and which the uninformed humanity of Trajan had so nobly discouraged, sufficiently proves the activity of the pursuit, and the earnestness of the pursuer, but the most important distinction is probably this:—Marcus Antoninus knew much better the nature of the evil which he was committing: he was acquainted, to a certain extent at least, with the opinions of the Christians, and the innocence of their character; and it is not likely that he had entirely neglected to examine the grounds of their faith. He watched the process of his own inflictions, and when he perceived the fortitude with which all endured, and the eagerness with which many courted them, he coldly reproved the unphilosophic enthusiasm of the Martyrs. And yet, perhaps, his own philosophy was not quite devoid of enthusiasm, or, at least, it was

not strictly regulated by reason, when it led him to labor for the destruction of the most moral and loyal portion of his subjects, only because they disclaimed the very superstitions which he placed his pride in despising. Nor again was his practice consistent with his professed contempt of these: for it is said, and seemingly on good foundation, that Marcus Antoninus was frequent in consultation with the Chaldean sages, deeply conversant with the mysteries of astrology, credulously attentive to oracular prophecy, obedient to the premonitions of dreams, which he believed to descend from Heaven—assertions not incredible, nor inconsistent with his studies or his principles; and there is ground to hesitate whether we should not rather convict him of superstition than hypocrisy. But it is certain that his understanding was of the broadest and most comprehensive description; that it was enlightened by every worldly knowledge; and fortified by frequent meditation; that his character was founded in excellent dispositions, confirmed by the best principles which were known to the Pagan world. His general regard for justice has never been questioned; even his humanity is commonly celebrated; and if the representations of history be not exaggerated, he reached as high a degree both of wisdom and of moral excellence as is attainable by the unassisted faculties of man—and yet this prince polluted every year of a long reign with innocent blood.

In our natural anxiety to honor every form of human excellence, we search for his excuse in the religious policy so long established in the empire.—But we find that those of his predecessors who were disposed to soften or suspend its operation upon Christians, possessed the power to do so; and we cannot doubt that the despotic authority of Marcus would have enabled him to revise or repeal those oppressive statutes, if he had learnt from the books of his philosophers the virtue or the meaning of Toleration. This, indeed, is the real and only ground of his defence; and we shall regard his conduct with less indignation, if we reflect how feeble were the mightiest principles of conduct with which he was acquainted; on what a loose and shifting foundation they rested; how large was the class of virtues which they did not comprehend, and how imperfect were the motives which they proposed for the practice of any. And thus considered, we shall discover, perhaps, some trace of heavenly providence in the circumstance, that the imperial philosopher, flourishing in the maturity of his science, and deficient in nothing which nature or man could bestow, was armed with the highest temporal authority and permitted to direct it against the infancy of our faith. From the splendid imperfection of Marcus Antoninus, from the perseverance of his powerful enmity, from its final failure, we may learn what narrow limits have been assigned to the virtue and wisdom and power of unassisted man; and we derive a new motive of gratitude for that heavenly aid, which has fixed our social happiness on a certain and eternal foundation.

The greatest prince of antiquity was succeeded by a son, who neither inherited his virtues, nor imitated his crime; so far from this, that we might almost imagine it to have been the object of Commodus to redeem his numerous vices by his humanity towards the Christian name.

Severus ascended the throne in the year 193, and is represented by Tertullian to have bestowed testimonies of approbation on several distinguished Christians, and openly to have withstood the popular fury which assailed the sect. But this account will apply only to the earlier part of his reign; for in the year 202 (about the time of the publication of Tertullian's *Apology*) he issued an edict, which indirectly occasioned a variety of inflictions, the most barbarous of which appear to have been perpetrated in Egypt. The professed object of that edict was only to prevent conversion either to Judaism or Christianity; for the fears of the emperor began to be awakened by the extraordinary progress of the latter.—Its effect was to oppress and torture the most zealous ministers of the faith, and to inflame the prejudices of the people against all believers. This enactment continued in force for about nine years, until the death of Severus; and from that period, if indeed we except the injuries inflicted by Maximin (from 235 to 238 A. D.) and directed chiefly against the instructors and rulers of the churches, the Christians, though occasionally liable to popular outrage, had not much reason to complain of the injustice of the government until the accession of Decius, in the year 249.

THE POLITICIAN'S MANUAL, by EDWIN WILLIAMS. New York: J. VAN NORDEN.—Not only to politicians by profession, but to all who desire to watch

the mutations of public opinion, and from the lessons of the past to read the future, does this little pamphlet present accurate and full means of information.

LA REVUE FRANÇAISE, pour Aout. N. Y., HOBKINS & SNOWDEN.

LA FRANCE LITTÉRAIRE, Vol. 5, No. 2. N. Y.

Bonaparte, the inexhaustible Bonaparte, supplies one of the most attractive papers in the first named of these periodicals. It is a supplement to the *Mémoires and Recollections of the Duke de Gaete*, Minister of Finance under the Empire. It is too long, however, to be translated, at least for today. From *La France Littéraire* we take a shorter one, also connected with the glories of Napoleon, and which certainly records a most extraordinary and, to us, entirely new military feat:

Presence of Mind and Courage of General Bethencourt.—At the moment when the first Consul at the head of the army of reserve was about to cross the great *Saint Bernard*, he ordered General Bethencourt with a corps of 1100 men to move upon Avona by crossing the *Simplon*. Arrived at the pass of *Yeuclle*, this General found himself suddenly checked by an unforeseen obstacle.

The wooden bridge, thrown across a mountain torrent some sixty feet wide, having been carried away by an avalanche, all means of communication between the two banks were cut off: the bed of the rushing torrent lying far below. This old bridge, of the slightest structure, and which was used only by foot-passengers and mules, was built on wooden beams, of which one end was inserted in holes in the rock, and the other was supported by a cross piece. General Bethencourt, whose orders to advance were imperative, resolved at any hazard to do so; and he proved in the end what a resolute purpose can effect.

He remarked that the holes in which the beams had been inserted were perfect; the weight of the falling timber having drawn out the whole of it. A volunteer, whose name even, at that epoch of prodigies, no one thought of inquiring, proposed to let himself down so as to place his feet in these holes, and then, aided by some little inequalities in the rock, to get down, swim across the torrent, and ascend as best he could the opposite wall. The intrepid soldier immediately carried his purpose into effect in the presence of the whole army, trembling at every instant lest he should fail in the unheard of attempt. The anxious eyes of all followed his movements with intense interest: they beheld him reaching, after imminent perils, the borders of the foaming stream, and instantly casting himself into the waves broken with rocks. He reaches the opposite bank; and then, with the assistance of his bayonet and an iron hook, he digs his way up, as it were, an almost perpendicular wall of rock. The summit attained, he proceeds to fasten securely the end of a rope he had carried with him, of which *Gen Bethencourt* held the other end; this is then drawn tight, and the General, by way of example, swings himself by his hands from this rope, and thus passes over the abyss. The soldiers emulously follow, and one by one, each carrying his arms, his knapsack, and 60 rounds of cartridge, the whole body passed over in the same way. The detachment immediately took up the march, descending the mountains to the plains of Italy, and had the honor to arrive on the field of *Marengo* at the height of the battle, and in time to take part in and sustain the movement of *Dessaix* which determined the victory.

SAUVAN,

formerly Head Clerk in the Dept of the Interior.

GALE MIDDLETON, a novel, by the author of *Brambletye House*—2 vols., Philadelphia, Carey, Lea & Blanchard.

Horace Smith, in the hero of this new work, has struck out an original character, which he sustains, with a great variety of difficult scenes.

The insolence of fashionable "Exclusiveness," and the meannesses of the low ambition to be admitted within its precincts, are incidentally displayed with great force; but they will neither correct the one nor check the other.

THE FAREWELL ADDRESS OF WASHINGTON. New York: C. C. WRIGHT & DURAND.—The Xylographic Press of these artists has added another historical document to their series, executed in the same gol-

den colors and finished manner as the Declaration of Independence and the Constitution of the United States, heretofore published by them. They have thus, in a convenient and ornamental form, furnished three documents, with which every American should be thoroughly familiar.

NEW MUSIC.—The week has been prolific of new Music. From *Atwill's Music Saloon*, 204 Broadway, we have a *Set of Quadrilles*, arranged for the piano forte, from the *Pirata* by J. B. Davenoy—*La Valse Tyrolienne*, from the opera of *La Fiancée*—"On the mountain high," a Tyrolean song, sung by Madame Otto, at Niblo's—"The Young Arab," a ballad, by Geo. Hargreaves.

From *James L. Hewitt & Co.*, 137 Broadway, we have "The Motherless," as sung by Miss Cawee and composed by C. A. Hodson. "The Mountaineer's Return," a Son of the Alpine peasants, composed and arranged by L. Devereaux. "Meet me by the Linden tree," a ballad, of which music and words both are by Geo. Linsey. "The Golden Girl," a ballad, sung by Mrs. Wood; and "The Dew Drop," a celebrated Rondo, sung by Miss Paton, Miss Stephens, and Madame Malibran, composed by C. E. Horn.

The pieces from Hewitt's are very handsomely got up, and each ornamented with an appropriate lithograph.

FOREIGN INTELLIGENCE.

ONE O'CLOCK.—By the Columbia, Captain Britton, we have received London dates to the 28th July, from which we make the following extracts. No Liverpool papers have yet been received.

LONDON, MONDAY, JULY 28.—Both Houses met on Saturday.

In the Lords, the Lord Chancellor took his seat on the Woolsack at 4 o'clock. Dingle and Lapworth, two individuals who have been in custody of the Sergeant at Arms, for refusing to appear at their Lordships' bar to give evidence on the Warwick Disfranchisement Bill, were brought up, and upon their undertaking to appear and give evidence whenever called upon to do so, they were ordered to be discharged upon payment of their fees.

It was then ordered that the Warwick Bill should be further proceeded with on Tuesday next, at 10 o'clock in the morning.

Soon after 5 o'clock, Mr. Charles Wood, accompanied by several other members of the House of Commons, presented the bill at their Lordships' bar. The Bill was received, and on the motion of Lord Melbourne, read a first, and ordered to be read a second time this day. Their Lordships then adjourned.

The Commons met at twelve o'clock. Lord Althorp moved the order of the day for the third reading of the Irish Disturbance Suppression Bill. Mr. Roynayne, as an amendment, moved "That the Bill be read a third time that day six months." After some discussion, the House divided, and there appeared for the amendment, 21; against it, 82.—The Bill was then read a third time.

Mr. O'Connell then proposed to insert in the Bill two clauses, to provide that nothing in the bill should be construed to prevent officers being tried by a civil tribunal for offences committed against individuals. A conversation of some length followed, and terminated in a division, when there appeared for the clauses 24; against them 69.

Upon the question that the Bill do pass, another division took place, when the numbers were for the passing of the Bill 60; against it 25. The Bill was then passed, and sent to the Lords.

The House then resolved itself into a Committee on the Stamp Acts, and leave was given to bring in a Bill to repeal the Stamp Duty upon Almanacks.

In reply to a question put by Mr. O'Dwyer, Lord Palmerston said the opinion of the Law officers of the Crown was that General Moreno was not amenable to any tribunal in this country.

The House adjourned at a quarter past Five.

PORTSMOUTH, JULY 26.—The royal consort of Don Carlos, and her sister, (the Princess of Beira,) with the three children of Don Carlos and their household retinue, returned to their lodgings in this town on Wednesday afternoon. It is the intention of the royal family to take up their residence in this place or neighborhood until the portending political events in Spain shall decide them to fix upon a more per-

manent residence. We understand that if Don Carlos should prove unsuccessful in his present enterprise, he will embark in the *Lulworth yacht*, which has been provided for his safety. This vessel left Boulogne on the 6th instant, and is now cruising off the coast, between Bayonne and St. Sebastian.

We have received the *Paris Papers of Friday*.—The portion of their contents which is most interesting, is that which relates to Spanish affairs, and the progress of Don Carlos. The accounts given in the different journals are contradictory in the extreme. By some of them it is stated that the Prince continues to act with great caution, confining himself to the mountainous parts of the country, and studiously avoiding a descent into the plain to which General Rodil is most anxious to draw him. Other accounts represent him as proceeding in his enterprise with every prospect of ultimate success, and state that his agents are actively employed in the purchase of arms and ammunition for his service both in France and England. The *Indicateur of Bordeaux* says, "The report of an insurrection at Madrid, meets no credit here." The following is the only extract by these papers:

The *Journal de Paris* says:—"Don Carlos continues retired in the mountains, studiously avoiding a descent into the plain, where General Rodil wishes to draw him. No news of an engagement has yet been received. Letters received to-day from Rodil announce that he has taken all necessary measures, and expresses a confident hope of success."

BRUSSELS, JULY 24.

OFFICIAL.—"The King of Belgium having notified his acceptance to the Spanish Government, the Queen Regent of Spain has, by a special decree with the council of Ministers, recognized the Kingdom of Belgium, and appointed M. Chevalier P. L'Allemet de Argai, Charge d'Affaires at Brussels."—[*Moniteur*.]

Brussels papers to the 24th instant were received last night. By the extracts which we have given below, it will be seen, that up to the 12th instant Don Miguel was still at Turin, though his residence there was not expected to be of long continuance. His inclination, it appears, would lead him to Vienna, but doubts are entertained whether it would suit the policy of that Court to receive him at present. Should such be the case, he has determined to fix his residence at Rome. These papers contain no information on any other subject.

Joseph Bonaparte, the ex King of Spain, (under the title of Comte de Survilliers,) who with a part of his family and suite, have been staying at the Crown Inn, Uxbridge, some few days, and who has, together with his brother Jerome, taken the mansion of the late B. Way, Esq., Denham Place, near Uxbridge, for a term of years, have left for that place, having waited the completion of some necessary repairs.—[*Windsor Express*.]

In relation to the British Post Office, it is stated in an official report, that in addition to the immense quantity of property passing daily through the Post Office, the amount of which it is not possible to estimate, and the numbers of letters constantly enclosing sovereigns and money (about 700 a day in and passing through London only) there are not less than 1000 letters annually put into the post without any address whatever. In many of these letters there are valuable enclosures, and in the course of a single year there have been above 100 letters of this description, which on being opened for the purpose of being returned to the writers, have contained property to the amount of between £20,000 and £30,000.

The quantity of tea, on which duty was paid in Great Britain for the year ending January, 1834, was 31,829,075 lbs.

According to an official return of the number of criminals in England and Wales, for the seven years ending with 1833, they amounted to 131,818.

The Russian journals give a statement of the present population of St. Petersburg. The number of male inhabitants is 291,290, and of females 153,845, total amount, 444,135. In this number, 1,968 are ecclesiastics, 38,894 belong to the nobility, and 47,548 to the army.

NEW COMET.—On the 8th of April, it is stated, Professor Gambart, at Marseilles, discovered a new comet, of a pale light color, with a diameter of four or five minutes. Owing to the state of the atmosphere, and its disappearance on the 13th, little has been ascertained of the stranger, except that on the 10th, 16h. 33m. 45s. sidereal time, its right ascension was 20° 9' 7", and the south declination 23° 33'.

Among the curiosities which M. Ruppel has brought from Abyssinia, are two remarkable manuscripts. One is a Bible, said to contain a new work of Solomon, one or two new books of Ezechiel, and a considerable addition to the fifth Book of Esther, all perfectly unknown in Europe. It also contains the Book of Enoch, and fifteen new Psalms, the existence of which was already known to the learned. The other manuscript is a species of code, which the Abyssinians date from the Council of Nice (324), the epoch at which it was promulgated by one of their kings. This code is divided into two books: the first relates to canonical law, and treats of the relations of the Church with the temporal power; the other is a sort of civil code. There are also some remarkable hymns, because they present the return of consonance, the only feature of poetry to be found in Abyssinian literature.—[Galignani.]

Odessa, April 22.—Another valuable remnant of antiquity has been found at Kertsch. It is a magnificent sarcophagus of fine white marble, six feet in length, and twenty-seven in breadth. On the lid are two colossal figures; one is that of an old man, leaning on his left arm, and holding a half-unrolled paper. The other is a woman, on whose shoulder the old man rests his right hand. On the sides of the sarcophagus are several groups in alto-relievo.—Every part of the sarcophagus is of admirable workmanship, and proves that the artist must have lived when Grecian art was in its greatest splendour. Unfortunately it is not entire; but all the pieces belonging to it have found, so that it may be entirely restored.

There has been lately imported into France by a traveller of the name of Delangremer, a new fruit called "Nafe d'Arabie." It would appear that this fruit possesses tranquillizing and soothing properties, and that its medicinal use may be regarded as of high importance.

Pedestrianism.—On Tuesday evening, after a very heavy fall of rain, Coates, the pedestrian, accomplished an extraordinary feat in Brown's grounds, at Brighton. He commenced by picking up fifty stones placed one yard apart in a straight line, and put each singly into a basket (the distance being nearly two miles); this he did in eleven minutes. He then walked a mile in seven minutes, wheeled a barrow one mile in eight minutes, walked backwards half a mile in six minutes, ran a pair of coach wheels half a mile in five minutes and a half, hopped 100 yards in half a minute, and lastly, jumped over twenty common hurdles five yards apart in one minute; the whole occupying fifty-seven minutes and a half. The match was stated to be for 25*l.*, and Coates was liberally backed. He has scarcely recovered from the fatigue he had undergone when he offered to bet 10*l.* to 5*l.* that he completed a similar task the same evening within the hour. There was a very considerable concourse of spectators.

SUMMARY.

Long Island.—The farm of the Misses Stewart at New Ulricht on the Narrows, about nine miles from the city, and consisting of one hundred acres, was sold by auction last Thursday for \$47,000. We understand a city is to be built upon it. The situation is very pleasant. The advance in real estate on Long Island, and on Staten Island, within the last year, has been very great.—[Jour. of Com.]

The notorious Cobbett has recently published—it is said, for we have not seen it—an address to the Irish, warning them of a purposed invasion of their country by the United States of America!

The Brattleborough Inquirer says—A gentleman from Dummerston, (Vt.) informs us that the drought is so great in that vicinity, that the grasshoppers are reduced to mere skeletons, and sit upon the fences, with tears in their eyes, for the want of something wherewith to satisfy the cravings of hunger!

Accident.—As a gentleman (Mr. Isaac Heard, of Charleston,) and his lady were on Saturday evening passing the Railroad in Newton, they were run over by the Worcester and Boston Railroad Locomotive Engine. Their horse was instantly killed, and the carriage dashed to pieces. Fortunately, Mr. Heard and his lady escaped unhurt. Mr. Heard was not aware of being in the neighborhood of the Railroad track. One of the cars was thrown off the road by the shock.

It will be found necessary, we suspect, for the safety of travellers on common roads, to require that whenever a train of railroad carriages approaches a

point where the railroad intersects the common road, notice, by ringing a bell or blowing a horn, shall be given.

QUICK TRAVELLING AND CHEAP.—The steamboat *Champlain* reached the dock yesterday afternoon at 4 o'clock, from Albany; whence she started at 6 o'clock; and made all the usual landings. Time, 10 hours,—distance 150 miles,—price of passage 50 cents!

The *Champion*, opposition boat, was only about ten minutes behind.

[From the *Troy Daily Advertiser* of yesterday.]

QUICK PASSAGE.—The steamboat *Erie*, Capt. Benson, left the wharf at N. York, yesterday, at 6 A. M., and arrived in this city at 4h. 53m. P. M. She arrived at Poughkeepsie at 10h. 58m. A. M., and at Albany at 3h. 53m. P. M.; having performed the trip from New York to Albany—deducting the time lost in making 13 landings—in the short period of nine hours and one minute.

REV. DR. BEDELL.—The religious community of Philadelphia, and the friends of religion generally, will hear with regret of the death of this eminent divine. He expired on Saturday morning, at 1 a. m., on his way to this city. He had spent a good portion of the summer at the mineral springs of Bedford, without receiving any essential benefit, consumption being, in fact, the malady by which he was finally swept from life. Dr. Bedell was a pure, noble minded, and highly intellectual man. As a clergyman, he was eminently popular; as a scholar, authentic in his taste, and rich in his attainments. In all deeds of charity and goodness he was pre-eminent. While the memory of his well-spent life remains, his name cannot cease to be cherished with a reverent affection by every lover of piety and talent.—[Philad. Com. Intel.]

Col. Don Vincent Bausa, Governor, ad interim, of the city of Matanzas, died at that place of apoplexy, on the 12th ult.

EMANCIPATION IN THE BRITISH WEST INDIES.—The following extract is from a letter received here today of the 12th ult., from the Island of Trinidad:

"Our island has been in the greatest uproar and confusion since the 1st inst. The negroes are flocking into town and refusing to work as apprentices under the new act for six years—the militia have been under arms for several days in succession, doing night duty also. About 100 negroes have been sent to jail for various terms of punishment, and many have been publicly flogged. They have at last consented to go to work; but I doubt much whether they will break out every now and then when the whim takes them. Indeed one can hardly wonder at their discontent, for it cannot be denied by any one of common humanity and justice, that it is very hard, after being declared *free*, to be made apprentices for six years to learn—what? what they have been doing all the days of their lives.

We are all quiet now, and the militia have been dismissed for the present."

Considering the ignorance of the negroes, and the consequent incapacity to understand the terms on which they have been declared *Free*, it was not to be expected that the great and important change in their relation to those whom they had before served as masters, would be effected without some difficulties and disturbances: thus far, they have been fewer than we apprehended.

Since the above was in type, we have received by the Joshua Breenwood, Capt. Jackson, arrived here from Trinidad, "The Port of Spain Gazette" of the 8th instant, which says—"We are happy to say that tranquillity has been restored in Port of Spain, and that accounts from the various districts throughout the island are satisfactory. There are two or three estates whose gangs are still about, and others which, although on the property, refuse to work; but these are solitary instances, and not sufficiently numerous to cause uneasiness."

EARTHQUAKE.—The same paper gives this account of an earthquake:

Letters received in town from Colombia, state that the town of *Santa Martha* (province of Ferra Firma) has been totally sunk by an earthquake. Water rushed over the site of the former town, and all the houses and inhabitants were engulfed.

Quarantine by Proxy.—The Charleston Courier says:—

"The steam packet *William Gibbons*, went to sea on Saturday night. The John Stoney, after having taken the passengers out of her that arrived from New York, took her place, and will perform the quarantine to which the *W. G.* had been subjected."

Amherst College.—The Commencement, on Wednesday, is said to have been of a highly respectable character. The number of strangers present was very great. The degree of A. B. was conferred upon thirty young gentlemen.

The day preceding Commencement, a discourse was delivered before the literary societies, by Gulian C. Verplanck of New York. This discourse is spoken of by those who heard it, as a very able and highly finished production.

The Degree of D. D. was conferred, we understand, upon Rev. George Redford of England; and that of L. L. D. upon Gulian C. Verplanck.—[Springfield (Mass.) Republican.]

[From the *Boston Commercial Gazette*.]

HARVARD UNIVERSITY.—At a meeting of the Board of Overseers, at the Council Chamber in Boston, August 25, 1834, the following resolutions were reported by a committee and unanimously adopted:

1. Resolved, That the students of Harvard University, have no just or equitable claim to exemption from prosecution before the civil and criminal tribunals of the commonwealth, for trespasses upon property, or against persons, whether belonging to the University or otherwise.

2. Resolved, That the proceedings of the President and Faculty of Harvard University, on the occasion of the recent riots and disturbances among the students at that Seminary, meet with the entire approbation of this Board.

3. Resolved, That the Circular published in the name of the Senior Class of Harvard University, relating to the recent riotous disturbances among the Students at that Seminary, is of a disorderly character, and entirely inconsistent with the station and duties of undergraduates at that University.

We are authorized to say, that on the above occasion, there was a numerous attendance of the Board of Overseers, and that every vote and resolution in relation to the above subject, was passed *unanimously*.

We observe by the Boston papers of yesterday that the Annual Commencement was held as usual on Wednesday.

[From the *Philadelphia Herald*.]

BANK OF THE UNITED STATES.—At the General Triennial Meeting of the Stockholders of the Bank of the United States, held at their Hall, in the city of Philadelphia, on Monday, the first day of September, 1834,

Robert Ralston, Esq. was called to preside, and Joseph Hemphill, Esq. appointed Secretary.

Nicholas Biddle, Esq., the President of the Bank, on behalf of the Board of Directors, submitted to the Stockholders, in compliance with the 13th article of the 11th section of the Charter of the Bank, "an exact and particular statement of the debts which shall have remained unpaid after the expiration of the original credit, for a period of treble the term of that credit, and of the surplus profits, if any, after deducting losses and dividends."

He also presented a general view of the present situation of the Institution, showing the statement of its liabilities and resources.

Whereupon, the following resolutions, moved by Joseph R. Ingersoll, Esq. were read, and unanimously adopted:

Resolved, That the thanks of this meeting be, and they hereby are, presented to the President of the Institution, and the Board of Directors, for the fidelity and skill which they have manifested in the management of the concerns of the Bank.

Resolved, That the Stockholders feel continued and undiminished confidence that the further administration of the concerns of the Bank, will be conducted with wisdom and seal by those who have heretofore so satisfactorily directed them; and that the last resolution adopted at the triennial meeting of the Stockholders, held on the 1st day of September, 1831, which authorizes the President and Directors to make application for a renewal of the Charter, and to accept such terms of renewal as they may consider just and proper, is hereby revived and continued.

On motion of Richard Price, Esq. the proceedings of the meeting, signed by the Chairman and Secretary, were ordered to be published, and the meeting then adjourned.

Signed ROBERT RALSTON, Chairman.
JOSEPH HEMPHILL, Secretary.

[From the London New Monthly Magazine, for July.]

SKETCHES OF HUMAN FOLLY.

Perhaps there is nothing less surprising in the history of human weakness than the deep and painful belief in the existence of spirits, of a friendly and of a hostile character, which may be traced through almost every age and every climate. When a man is walking alone in the gloom of night, he feels that he has to trust to his mind for the light that is to conduct him on his journey. The outlines of his own frame are no longer visible to the eye, all outward objects assume a similar shadowy form, and between the optical illusions which are produced by darkness, and his alarm for his own safety, he recoils more and more upon the spirit that is within him for the succor of which he stands in need. Under these circumstances, it is almost unavoidable, unless he be endowed with a firm and well disciplined intellect, that being at the moment much more conscious of his ethereal than of his physical nature, he should people the forest or the plains around with phantoms of every description.

One of the most extraordinary instances that have fallen within my notice so far as concerns the general faith in the existence of spirits, and consequently in the possibility of the dead returning again to life, is the story of Johannes Cantius, which was related to Dr. Henry More by a Silesian physician, and the truth of which cannot be disputed. I do not, of course, mean to express my belief in the tale that Cantius after his death appeared again in his native town; it is certain, however, that his townsmen were violently agitated for some time by rumors to that effect, and that these rumors were credited to a great extent throughout the whole province of Silesia.

Cantius was one of the Aldermen of the town of Pertsch, and bore a high reputation for integrity and good sense. The Mayor sent for him one day to assist in settling a dispute which had taken place between some wagoners and a merchant of Pannonia.

When the reference was brought to a conclusion, the Mayor invited Cantius to supper; the invitation was accepted. The supper, as usual in all mansion-houses, was excellent; and nobody enjoyed the feast more than Cantius, who frequently exclaimed, while he quaffed the Mayor's best Rhenish, "It is good to be merry while we may, for mischiefs grow up daily." Being obliged, however, to leave the party early, in consequence of a journey which he had to perform, he returned home, went to his stable, and ordered out one of his geldings. When the horse was led to the door, it appeared to have lost a shoe. Cantius lifted the leg of the animal to look at the hoof, when it gave him a violent kick in the stomach. He tried out immediately that he was a dead man, for that his interior was all on fire. He fell sick, and exhibited the greatest agony of mind, saying that his sins were so enormous that they could never be forgiven. This disclosure was so inconsistent with the general habits of his life, that no person could account for it, until by some means it was discovered, or suspected, that, with a view to secure his worldly interests, he had sold his soul to the Prince of Darkness. It was then remembered, though a prosperous man, his riches came to him very suddenly, and that a mysterious black cat was seen frequently in his company. The moment of his death was signalized by the commencement of an awful tempest, which raged at his funeral still more tremendously; but when he was buried, all was calm again, as if the earth had been relieved of the presence of some demon.

After he was buried, a rumor arose that a spirit was seen walking about on the premises of the late Alderman. The report received "confirmation strong" from the watchman of the ward, who deposed that he heard unusual noises in the house, as if persons were within it, throwing the furniture and everything else about in the most reckless manner. He added that the gates, which were carefully barred every night, were found wide open very early in the morning, although nobody was known to have withdrawn the bolts, or to have passed through the gates. The agitation of the scene extended even to the late worthy alderman's horses. They appeared in the morning covered all over with foam, as if they had been ridden vast distances during the night, and yet it would appear from the strange noises they made, that they had never been out of the stable. The dogs performed their part in the general incantation, for they kept the whole town awake by barking and howling the night long in a most extraordinary manner.

A maid servant of Pertsch, who paid peculiar attention to the transactions that were going on, swore

that she heard some person riding up and down the stairs on horseback, and galloping through the rooms. The house shook to its foundation, and she thought every moment that it would tumble about her ears. The windows were filled with flashes of lurid light. The new master of the house, not knowing what to think of the matter, went out one morning to explore the adjacent territory; snow was on the ground, and he clearly traced upon it the impressions of feet, which were neither those of a horse, nor the cow, nor of any known animal. But the alarm of the town became indescribable, when it was ascertained that Cantius had been actually seen by several persons riding up and down in the courtyard of his *ci-devant* domicile, and not only here; but also in the public streets, and along the neighboring vallies and hills, with a terrific rapidity, as if he had been chased by some infernal huntsman. The ground flashed with fire as he fled on his courser over the rocks and ridges of the mountains.

At one time Cantius was seen wrestling with an unhappy Jew, and torturing him with the most wanton ferocity. At another, a wagoner reported that as he approached the town, Cantius met him and vomited fire in his face. The parson of the parish was every night rolled backward and forward in his bed by Cantius, who did not leave him until he was quite exhausted. The parson's wife was treated in the same manner by Cantius, who usually penetrated through the casement in the shape of a dwarf. A boy's lips were found pressed together in such a way that he could not open them again. This was the work of Cantius. At a certain hour of the night, the candles burned with a dismal blue flame. It was the sure token of the approach of Cantius. Bowls filled over night with milk, were found empty in the morning, or the milk was turned into blood; old men were discovered in their beds strangled; the water in the fountains was defiled; cows were already sucked dry when the milk-maid claimed her usual tribute; dogs were seen dead with their brains knocked out, and the poultry disappeared—all these extraordinary occurrences were the doings of Cantius.

In the shades of the evening a head appeared looking out from the window of an old tower; suddenly it changed its form, and assumed that of a long staff, or a horrible monster—it was Cantius. In short, so numerous were the shapes which this unquiet ghost assumed, and such was the terror which he excited among the good folks of Pertsch, that travellers avoided the town, trade decayed, and the citizens were impoverished so much, that measures were at length taken for the purpose of ascertaining whether the alderman was dead or alive. Accordingly, a body of the people proceeded to open his grave; all his neighbours non-existent who had been buried before or after him, were found to have undergone the usual process of "dust to dust," while the cuticle of Johannes was as soft and florid, and his limbs as supple, as if he had only just fallen asleep. A staff was put into his hand—he grasped it with the strength of a giant. His eyes opened and closed again. A vein in his leg was lanced, and blood issued from it in a copious stream. All this happened after Cantius had been reputed to have occupied his grave six months. An inquest was held on the body, for which there was a precedent in the case of a shoemaker of Breslaw, and the judges condemned the alderman to be burnt. But a difficulty still remained to be got over; for, with all the efforts they could make, they could not remove the body from the grave; it was so heavy. At length the citizens had the good luck to discover the horse which had killed Cantius, and, though the tug was tremendous, this animal succeeded in disinterring the remains. Another formidable obstacle to the absolute dissipation of the body remained to be conquered; it was placed over a fire, but it would not burn! It was then cut into small pieces, which were reduced to ashes, and the spirit of Cantius never appeared again! This is a very extraordinary story. But its preservation, and the minuteness with which it details so great a variety of circumstances, clearly show that, even if it had been wholly invented, it must have been, at all events, suited to the credulity of the age.

I have read many wonderful things about Ireland, in a strange legendary account of that country, which I have met with; but the tradition of the Laughing Skull possesses a sort of horrible drollery altogether unequalled. It is said that a comic actor or minstrel, by name Clepsanus, once flourished in that island, who was the Liston of his time; his face was such a farce in itself, that any person, no matter how much oppressed by the most agonizing grief at the moment, who looked at him, found it absolutely impossible to avoid laughing. Having

fretted his hour upon this stage of life, he made his exit, and was buried in the church-yard, where, in due course of time, all that was mortal of him disappeared save his pericranium. The grave-digger, while making room in the same spot for a new claimant, shovelled up the skull of the minstrel, and, without at all remembering to whom it had once belonged, placed it on a large stone that was on the surface of the earth. Some stragglers came into the churchyard, and happening to approach the said stone, they set up such a peal of laughter that the grave-digger was astonished. He looked about to ascertain the cause of their mirth, when his eye falling on that part of the caput, from which the mouth and tongue of Clepsanus had formerly set so many an audience in a roar, he too, yielded to the contagion, and laughed till he could dig no longer. The funeral train, for whose reception he had been preparing, next appeared, rending the air with that melancholy howl, which even yet may be heard in some parts of Ireland, on such occasions. But as the procession advanced, and reached within view of the skull of Clepsanus, the notes were suddenly changed to shouts of irresistible merriment. The tradition adds, that this singular relic might be seen even within a century or two ago.

The death of Henry IV. (assassinated by Ravallac) placed not only the Queen, but I may add the interests of the kingdom, entirely in the hands of Galigai. Her ambition knew no bounds. Her husband was raised to the dignity of Marechal d'Ancre, and provided with a munificent income. Her apartments in the palace were soon crowded with courtiers of the first rank in the country. She had the insolence to shut her doors against them, whenever she chose to be relieved from their importunities. It was said that when she thus secreted herself, she was employed in incantations, the object of which was to preserve her influence over the Queen, and to render it immutable. The young King, Louis XIII., was one day playing in his apartments, which were near those of the Marechal. Disturbed by the noise, she went and told him that he must desist, for that the noise gave her the *migraine*. Outraged by her audacity, the youth answered, that if his noise reached her chamber, Paris was large enough for her to choose another. This slight occurrence got bruited abroad, and conducted not a little to direct the tide of public opinion against both Galigai and her husband; they were hated by the King, the nobility, and the people.

Several persons, who evinced peculiar hostility to the two adventurers, died in a mysterious manner. Their deaths were publicly attributed to the contrivances of the Marechale, to which her magical powers enabled her to have recourse. Concini was assassinated by the direct orders of the King. She heard the intelligence without a tear—without even the slightest emotion. But when she was informed that his body was exhumed and burnt as that of a convicted sorcerer, she trembled for the fate that impended over herself. She was ordered to the Bastille. Before she was removed from her apartments, they were plundered of every description of property which they contained,—her splendid furniture, her matchless caskets filled with jewels, and even of her wearing apparel,—under the pretence of searching for the instruments of her supernatural operations. She was obliged to appear before a commission specially appointed to try her. She was accused of being cognizant of the treason of Ravallac, and of assisting him to carry his designs into execution. But the principal charge against her was that of sorcery; and in proof of her guilt, certain letters were produced which were written by her secretary, addressed to a Jewish Physician named Montalio. It was deposed that after the arrival of this Italian Jew at Paris, the Marechale ceased to attend mass, and that she very frequently carried in her mouth small balls of wax, from which she divined whether her enemies were likely to die or live. It was further stated by her own coachman, that he had seen her sacrifice a cock in the church at midnight; and the Procureur-General cited several authorities from Hebrew books to show that this oblation was Jewish and Pagan, and could have had no other object in view than that of contributing to the magical ceremonies practised by the prisoner. It appeared also in evidence that the Marechale frequently expressed her repugnance to be looked at by particular persons, because they enchanted her, and that she was known to have often consulted Isobel, a famous sorceress at Paris in those days. Amulets were produced which she admitted to have worn, according to the common practice of the age, as preservatives against the powers of darkness; and several Hebrew books, which were said to have been

found in her cabinet, were brought forward as proofs of the illicit means which she had adopted in order to enslave the mind of the Queen. "My only sorcery," she nobly exclaimed, when interrogated on this point, "has been the power which a strong mind must always exercise over a weak one." She met her death with great firmness; the catastrophe was afterwards celebrated in a tragedy, entitled "The Foreign Magician."

The manufacture of Brazen Men was at one period a favorite object of pursuit among the magicians of the continent. The best of these automata seems to have been the production of a celebrated Dominican friar, named Albertus Magnus, who was Bishop of Ratisbone in the twelfth century. He employed it as a domestic, and it was said that the image answered all questions put to it. This, of course, was an exaggeration. But certainly Albertus was no common practitioner in the art. Being desirous to pay his court to William, then Earl of Holland, from whom he wished to obtain a grant of a certain tract of land on which he intended to erect a convent for his order, he invited the prince to a magnificent entertainment. It was the depth of winter, the ground was covered with snow; nevertheless, the preparations for the banquet were made in the open air. When William and his retinue arrived at the place where the festival was to be held, they were astonished and much annoyed to find that they were to dine exposed to all the inclemency of the season. Albertus bore their murmurs with great complacency, and with some difficulty persuaded them to take their seats at the table. They took care, however, to wrap themselves in their cloaks, and to secure themselves against the cold as well as they could. No sooner were they seated than the snows melted away, the trees put on their summer dress, and were peopled with various birds that made the air resound with their melody. The ground was carpeted with fresh verdure; and a group of youthful pages splendidly attired appeared ready to wait on the guests, and viands and wines of the most luxurious description seemed self-arranged on the table. The sudden transition from winter to summer extended even to the skies, for the temperature of the atmosphere became so high that the prince and his followers were obliged to divest themselves of their cloaks and other superfluous garments. The change was enchanting beyond expression. The prince was delighted, and readily yielded the suit of the friar. The grant was no sooner made than the table and the beautiful pages vanished, the snow came down from the heavens in sheets, the song of the birds ceased, the trees again faded to their wintry aspect, and the guests, hastening to resume the garments which they had put aside, were very glad to betake themselves to the neighboring cottages for shelter.

The Emperor Jehangire, to whose curious autobiographical Memoirs I have already alluded, gives us an account of an entertainment which he received, very similar to that provided by Albertus, with this difference, that in the East the wonders of the scene were avowedly wrought by artificial means. He was proceeding in the winter season from Mandou to the province of Gujerat, when he was invited to spend some days at the villa of a nobleman near Ahmedabad, whose daughter was one of the inmates of his harem. The young lady was the director of the preparations on the occasion. "In the course of five days," says the emperor, "by employing various artificers of the town, to the number of four hundred individuals, in different branches of decoration, she had so effectually changed the appearance of the gardens, by making use of colored paper and wax, that every tree and shrub seemed as abundantly furnished with leaf, and flower, and fruit, as if in the very freshness and bloom of spring and summer. These included the orange, lemon, peach, pomegranate, and apple; and among flowering shrubs, of every species of rose, and other garden flowers of every description. So perfect, indeed, was the deception produced, that when I first entered the garden it entirely escaped my recollection that it was no longer the spring of the year nor the season for fruit, and I unwittingly began to pluck at the fruit and flowers, the artificers having copied the beauties of Nature with such surprising truth and accuracy. You might have said, without contradiction, that it was the very fruit and flower you saw, in all its bloom and freshness. The different avenues throughout the garden were at the same time furnished with a variety of tents and canopies of velvet of the deepest green, so that these, together with the verdure of the soil, contrasted with the variegated and lively tints of the rose, and an infinity of other flowers, left altogether such an impression on my mind, as that in the very season of the rose I never contemplated in

any place, garden, or elsewhere, anything that afforded equal delight to the senses."

Next to the extraordinary performances of the Indian wonder-workers, which I have already described, on the authority of Jehangire, we must rank those of the Bohemian Ziito. In Europe, his deeds of enchantment are altogether unequalled. When his royal master, Wenceslaus, was about to be married to Sophia, daughter of the Elector Palatine of Bavaria, a great number of Bavarian jugglers attended the court of the latter to Prague, to assist in giving variety to the amusements which were to follow the nuptials. The day for the grandest performances having arrived, Ziito was present. In personal appearance he looked like a satyr. His mouth reached from ear to ear; and his shaggy hair and deformed features gave him the aspect of a monster. Mingling with the crowd of spectators, he watched the tricks of the jugglers, until, at length, he broke out into a violent passion, and reproached them with the bungling manner in which they went through their exhibitions on so important an occasion. The principal performer repelled the attack of the Bohemian with similar violence of language; and the controversy seemed likely to give rise to blows, when Ziito, without any further ceremony, to the horror of the court, swallowed up his antagonist, rejecting only his shoes, because they were dirty. He then retired for a few minutes, and returned again, leading the magician by the hand, as if nothing had occurred between them.

But this was not all. Ziito then successively assumed the likeness of a variety of persons; now resembling one individual, now another. At one moment he appeared in the most ragged attire, in the next his garments were of the most sumptuous description. He flew, as it were, in the air; not, however, as if he were sustained by wings, but as if he were sailing in an invisible ship, rising and descending with an undulating motion, without touching the earth; and all this without any apparent exertion on his part. The guests of the King were seated at the banquet; they put out their hands to help themselves to the dishes before them; in the very act their hands were converted, by the influence of Ziito, into cloven feet! He went down to the court-yard, where he appeared in a carriage drawn by coaks and hens. While the royal guests were crowding the windows to behold this exhibition, he planted the antlers of the stag on their heads. They could not withdraw from the windows; and he availed himself of the opportunity to apply to his own use the most dainty luxuries he could find on the table at which they had been sitting!

Ziito was at one time very much in want of some cash. He took up a few grains of corn, and metamorphosed them into as many hogs. These he drove to the house of a dealer in swine, to whom he sold them for ready money. He warned the dealer not to drive them to the river side for water—a hint which the man laughed at as a joke; but when he did drive them thither, the moment they touched the element the animals resumed their pristine character of grains of corn. The dealer, in a furious passion, sought out the enchanter all over Prague. At length he met with him in a shop, and charging him with the imposition which he had practised, demanded back the purchase money. Ziito, having no money in his purse, preserved a dogged silence. The angry creditor took hold of his leg to pull him into the street; the leg and thigh came away from the body of Ziito, who summoned his mutilator before a magistrate for the injury he had received. His worship was of opinion that the loss of the limbs was a fair set-off against the debt, and Ziito escaped the prosecution of his dupe.

It was currently believed in England, in the fourteenth century, that Raymond Lulli, a magician from Majorca, who was said to have gained possession of a philosopher's stone, and who was actually invited to this country on that account by Edward I., supplied that monarch with six millions of money, to enable him to carry on the war against the Turks. Lulli boasted little of his power of transmuting the base metals into gold. He said that his "great art" was a certain hidden faculty, by which he enabled any person to argue for many hours consecutively in the most logical manner, on any subject whatever, even though the party had never before paid the matter the slightest attention. Had Lulli flourished in our days, he would be an invaluable acquisition to many members of Parliament.

The art of transmutation was so fully believed in England in the fourteenth century to have been carried to perfection, that an act was passed in the fifth year of the reign of Henry IV., by which the manufacture of gold or silver from the base metals was

made a felony! The ground solemnly alleged for the enactment of this law was the apprehension entertained by the commons of those days, that if money were obtainable in this fashion, the King might supply himself with treasure *ad libitum*, without the assistance of Parliament, and so convert it to the purposes of despotism. The prevalence of a similar belief here, even late in the fifteenth century, is proved by patents which were granted by Henry VI., with a view to encourage researches in pursuit of the philosopher's stone!

My purpose in writing these papers is to show, that the extravagant fancies entertained by the men of former days were in a great measure the natural result of the mixed constitution of the human mind—fitted for existence here and for enjoyment hereafter. The yearnings of our ambition for that higher state to which we are destined, render us but too eagerly disposed to pursue any faint imaginary glimpses, which the intellect may catch of the invisible regions around us. But these impulses tend to convince us of the extensive ranges of conception over which the imaginations of man is permitted to wander, in order to prove, as it were, the incipient wings which are eventually to bear the soul to higher stages of thought, and a nobler sphere of action.—It was also my purpose, in re-producing the follies of the olden times, to compare them with some of those which we find prevailing in the present day, in order to show that however the object of pursuit may be varied, the average of wisdom and madness in every age of the world remains very much the same.

RAILROAD IRON, &c.

Sealed proposals will be received until the 15th day of September next, for the immediate delivery thereafter at Suffolk, Va., of 250 tons of Railroad Iron in bars from 14 to 18 feet in length—2 inches wide by half an inch thick—pierced with countersunk holes—three of an inch in diameter, 1 foot or 13 inches apart from centre to centre; and for 16 tons of Spikes 4 inches long and three of an inch in diameter. Specimens of the latter, and drawings of the rail showing the size and shape of the hole, shape of the rail, and angle of the scarf, will accompany each bid. **WALTER GWYNN, Civil Engineer.**

Engineer's Office, Portsmouth & R. R. R.
Suffolk, Va., August 18.

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TO RAILROAD COMPANIES.

The subscriber having erected extensive machinery for the manufacture of the Iron Work for Railroad Cars, and having made arrangements with Mr. Phileas Davis, patentee of the celebrated wire drilled wheels, will enable him to fit up at short notice any number of cars which may be wanted.

The superiority of the above Wheels has been fully tested on the Baltimore and Ohio Railroad, where they have been in constant use for some months past. Having fitted up Wheels for six hundred cars, the subscriber flatters himself that he can execute orders in the above line to the satisfaction of persons requiring such work. The location of the shop being on the tide-waters of the Chesapeake Bay, will enable him to ship the work to any of the Atlantic ports, on as reasonable terms as can be offered by any person. All orders will be executed with despatch, and the work warranted. When there are but a few sets wanted, the chills and patterns are to be furnished, or the company pay the expense of making the same, and if required, will be sent with the wheels. All Wheels furnished and fitted by the subscriber will have no extra charge on account of the patent right.

Samples of the above Wheels, which have been broken to show their superiority, may be seen at the office of the Railroad Journal; at the Depot of the Boston and Providence Railroad, Boston; and at John Arnold's shop, near the Broad street House, Philadelphia. All orders directed to W. & E. PATTERSON, Baltimore, or to the subscriber, Joppa Mills, Little Gunpowder Post-Office, Baltimore county, Maryland, will be attended to. **DEAN WALKER, a 30**

RAILWAY IRON.

Ninety-five tons of 1 inch by	1 inch,	Flat Bars in
200 do. 1 1/2 do.	do.	lengths of 14 to 15
40 do. 1 1/2 do.	do.	feet counter sunk
800 do. 2 do.	do.	holes, ends cut at
800 do. 2 1/2 do.	do.	an angle of 45 de-
soon expected.	do.	grees with splic-
		ing plates, nails
		to suit.

250 do. of Edge Rail of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axles of 24, 28, 32, 34, 36, and 38 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

A. & G. BALSTON,
9 South Front street, Philadelphia.
Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them. **d12meowr**

TOWNSEND & DUFFEE, of Palmyra, Manu-
facturers of Railroad Rope, having removed their establishment to Hudson, under the name of **Duffee, May & Co.** offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. of M. & H. R. R. Co., Albany; or James Archibald, Eng. Master Hudson and Delaware Canal and Railroad Company, Carbon Lake, Luzerne county, Pennsylvania.
Hudson, Columbia county, New York,
January 29, 1853.

[FOR THE NEW YORK AMERICAN.]
LYNES ON THE DEATH OF A YOUNG FRIEND.

How oft I've gazed upon this face,
 And seen upon this brow, now cold,
 Deep passions linger, and could trace
 Where each in turn had left its mould.
 And this, then, is the end of all
 The hopes you fondly cherish'd—
 All ended here in space so small—
 And with thy youth have perish'd.
 And this that I now gaze upon
 Is doom'd to darkness and decay;
 For Death in thee his work has done,
 And 'tween thee from the cheerful day.
 I'd mourn for thee, but that I know,
 Thou had'st a hope beyond the tomb;
 A hope that now does brighter grow,
 A star amid surrounding gloom.

THE DEAD CHILD.

"She was my idol. Night and day to scan
 The fine expansion of her form, and mark
 The unfolding mind, like vernal rose-buds, start
 To sudden beauty, was my chief delight.
 To find her fairy footsteps following me—
 Her hand upon my garments—or her lip
 Long sealed to mine,—and in the watch of night
 The quiet breath of innocence to feel
 Soft on my cheek,—was such a full content
 Of happiness, as none but mothers know.
 Her voice was like some tiny harp that yields
 To the slight finger'd breeze,—and as it held
 Long converse with her doll, or kindly soothed
 Her moaning kitten, or with patient care
 Conn'd o'er her alphabet,—but most of all
 Its tender cadence in her evening prayer,
 Thrill'd on the ear like some ethereal tone,
 Heard in sweet dreams."

But now I sit alone,
 Musing of her,—and dew with mournful tears
 The little robes that once with woman's pride
 I wrought, as if there was a need to deck
 What God had made so beautiful. I start,
 Half fancying from her empty crib there comes
 A restless sound,—and breathe the accustom'd words,
 "Hush, hush, Louisa, dearest."—Then I weep,
 As though it were a sin to speak to one
 Whose home is with the angels.

—Gone to God!
 And yet I wish I had not seen the pang
 That wrung her features, nor the ghastly white
 Settling around her lips. I would that Heaven
 Had taken its own like some transplanted flower,
 Blooming in all its freshness.

—Gone to God!
 Be still, my heart!—what could a mother's prayer,
 In all its wildest ecstasy of hope,
 Ask for its darling like the bliss of heaven?"

RAILROAD AND CANAL MAP.

THIS long promised Map is now ready for those who wish it. Its size is 24 by 40 inches. It is put up in a convenient pocket form, in morocco covers, and accompanied by over 70 pages of letter press, giving a concise description of, or reference to, each Road and Canal delineated on the Map. It will also be put up in *Marble Paper* covers, so as to be forwarded by mail to any part of the country; the postage of which, cannot exceed 44, and probably not 25 cents, to any part of the country.

Published at 35 Wall street, N. Y., by
D. K. MINOR & J. E. CHALLIS.

THE CIVIL ENGINEER AND MACHINIST.
PRACTICAL TREATISES OF CIVIL ENGINEERING, ENGINE BUILDING, MACHINERY, MILL WORK, ENGINE WORK, IRON FOUNDRY, &c. &c. Designed for the use of Engineers, Iron Masters, Manufacturers, and Operative Mechanics. By Charles John Blunt and R. Macdonald Stephenson, Civil Engineers, Architects, &c. &c. Consisting of examples worked through their entire detail of fundamental principle, organization, and process of execution; and being in every case the known great works of British and Foreign Engineering complete at length. Exemplifying the practical application of the Laws of Statics, Dynamics, Hydraulics, Hydrostatics, Pneumatics, and General Mechanics; accompanied by full reports, specifications, estimates, and journal of progress; and illustrated by the formulae, calculations, tables, &c. in use by the first authorities. The working plans and general views of these important subjects are laid down in original drawings of great practical accuracy and careful execution, and occupying upwards of five hundred folio and imperial folio plates. In divisions, containing from ten to fourteen plates, in a portfolio. Price one guinea. Division I. is received. For sale, and subscription are solicited, by
WM. A. COLMAN, No. 122 Broadway, English Publication Warehouse.

ALBANY SEED STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with **FRESH GARDEN SEEDS**, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurtzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORBURN,
 347 N. Market st. (opposite Post Office).
 Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better success can be done in the execution.

Mr. Thorburn is also Agent for the following publications, to wit:—

NEW YORK FARMER and American Gardener's Magazine.
MECHANICS' MAGAZINE and Register of Inventions & Improvements.

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads
 No. 264 Elizabeth street, near Bleecker street,
 New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.
 J25 tr

RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

Also, **AXLES** furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, **CAR SPRINGS.**

Also, Flange Tires turned complete.

ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m18



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTT, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude. For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartt.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable.

They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These Instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewing and Heartt.—As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of pursuing the same. m25

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency, the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine, wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company,
WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 49, page 772, Vol. 2, of Railroad Journal.

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 15, 1833. A29 tr M&F

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by
E. & G. W. BLUNT, 154 Water street, J31 tr
 corner of Maidenlane.

SURVEYING AND ENGINEERING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy; also, a Railroad Goniometer, with two Telescopes; and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,
 Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.
 In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad, I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,
JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.
E. H. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.,
 Germantown, and Norristown, Railroad.